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VOLUME XXI, 1914

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NOTE TO THE READER: There are in vogue so many synonyms for things and conditions that it is impossible here to enumerate them all (although many are listed); hence, the reader, if disappointed under one catchword, should exhaust the list of equivalent terms before giving up. (Example: Urotropin, formin, aminoform, cystamin, uritone, hexamethylentetramine. Or: Consumption, pulmonary cough, tuberculosis, phthisis.)

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As to Taking Medical Journals

NO MODERN physician thinks of attempting to practice his calling without a well-stocked and carefully chosen library of textbooks, to which he adds, from time to time, as his means will allow. And we hope, in the course of the next month or two, to have something helpful to say to our readers in this connection. But medicine is such a rapidly moving science that every passing week, every day almost, changes the face of the medical map, and no textbook can, in the nature of things, represent the true status of medical knowledge, even up to the time of its publication. For, between the time of its writing and that of its publication, a whole mass of new information has flooded the arena, and much of the older matter has become practically obsolete.

The medical periodical, on the other hand, is medical history in the making. It is to the medical man exactly what the newspaper is to the business man. It represents the live, dynamic progress of medicine in the making, and that at first hand. The wonderful facilities of communication now obtaining enable the journal to present to its readers all that is "doing" in medicine and in surgery, in every part of the world, accurately, quickly, conveniently, so that by its agency the busy practitioner on the frontier is kept in close and constant touch with the centers of experiment and research. If, then, this doctor can not afford to be without textbooks, still less can he afford to get along without reading a number of the best professional periodicals of the day.

Nor is there any reason why he should be without them. The same facilities of civilization which make possible the gathering of information make it also possible to disseminate the same at a cost to the reader that is little more than nominal. Almost any of the monthly medical journals may be had for a dollar or two a year; so that for the modest outlay of, say, five dollars a year a physician may have three, four or five of these up to date magazines come to his desk regularly each month, and that without any further trouble to himself than the mere act of ordering and remitting for them.

Certainly, there is not a practitioner making a living at all but can, and ought to, devote five dollars a year to supplying himself with the live news of his own calling. Most physicians should, indeed, invest twice that sum in this very important part of their equipment; but at least the smaller amount should be regarded as a legitimate item of current expense. This insignificant outlay will repay itself over and over again, with the possibility, often, of proving the means of carrying him to success through a perplexing and difficult situation—and inevitable gain in his standing in the community. The reading doctor is the successful doctor. Like "old wine" he grows better as he grows older. He is the man who is looked up to, respected and employed.

What better habit, then, to take on, at this, the beginning of a new year, than the habit of subscribing regularly for half a dozen good live medical journals of which, of

course, THE AMERICAN JOURNAL OF CLINICAL MEDICINE should be one?

A man's compensation should be made up of two parts until he is fifty years of age. He should say to himself when considering employment—what can I earn; and next put the letter L before earn and ask, What can I learn?—Hugh Chalmers.

WHY YOU SHOULD READ "CLINICAL MEDICINE"

There still are some physicians in the country who are laboring under the mistaken impression that CLINICAL MEDICINE is "published for profit" only and conducting a commercial propaganda in a certain class of remedies largely used by physicians. That there may be no misconception, we confess freely—eagerly, indeed—our interest in the active principles. We have advocated the use of the active principles in the past. We shall continue to advocate them in the future. We believe in them. We want others to believe in them. But we deny that our journal has no other purpose than to get you to employ this kind of drugs—any kind, for that matter. We are eager for every doctor in this country to appreciate fully something of our ideals, and to learn what we are trying to accomplish.

It is for this reason that we are sending copies of this issue to some thousands of doctors who are not now subscribers. This editorial is intended especially for them—for you—and we ask as a special favor that you read it carefully, and then go through the entire journal from beginning to end, to see what we are actually doing, and to get something of the spirit of the publication.

First of all, it should be understood that CLINICAL MEDICINE is primarily a therapeutic journal. In that field we believe we stand at the head, or very near it. We are sparing no expense nor effort to give in its pages full reports of the latest and best accomplished in therapy the world over. These reports are not mere clippings from other journals; they are careful digests, made by men who can present the "new things" in their proper proportion, with special reference to the interests of the general practitioner. We receive all the leading English, French, German, Austrian, and other foreign journals, purchase the important books published abroad, and try to cull from them *the things which you can use*.

After this, we invite our subscribers to try these things—the new things and the old ones presented in new ways—and give their

experiences for publication. Our pages are replete with these reports; and, coming from busy men like yourselves, we know that they fit into the emergencies such as you are compelled to grapple with.

Every real therapeutic advance, no matter where made or by whom, is mirrored in these pages. Thus, for instance, are you fully familiar with all of these topics, to name only a few:

Koranyi's benzol treatment of leukemia;

The use of salvarsan in pernicious anemia and pernicious malaria;

Curle's intensive iodine treatment of tuberculosis;

Rogers' emetine treatment of amebic dysentery;

What is being done with radium, thorium, and other radioactive substances;

Besredka's sensitized vaccines;

The bacterin treatment of scarlet-fever, whooping-cough, and typhoid fever;

McCarrison's new method of treating goiter with intestinal antiseptics;

The focal treatment of chronic arthritis—which is making it possible to cure the "incurable?"

These and hundreds of other therapeutic advances of similar import are discussed in CLINICAL MEDICINE just as soon as reliable information can be secured concerning them. In this department alone we publish material enough to make a 200-page book every year—for which you will pay \$2.00 when you buy it in some year-book after the ideas are a year or more old!

Take the laboratory research-work. What wonders are being accomplished in this field! Murphy says that internal medicine is the great opportunity for the doctor of the future. We give it to you in CLINICAL MEDICINE, boiled down, in language that you can understand. You want to know how Abderhalden can diagnose cancer or pregnancy by examining the blood? What Crile means by "anoci-association?" About Noguchi's discovery of the germ of rabies? Also, how he proved that paresis of the insane is actually due to syphilis? You will find it all in these pages.

But most important is the kind of stuff that will help you cure Molly's acne and Johnny's urethritis. Others are curing these cases. Others are having better success than you in typhoid fever, pneumonia, rheumatism, both acute and chronic, and in the simple surgical ailments. You do not feel quite sure of yourself, possibly, in some of the obstetrical difficulties, and you would like to

add to your money-making capacity, by taking up a little "specialty" work. In helping you in this great field—in prying open for you just a little—but, every month—the door of opportunity we find our greatest pleasure. For instance—

Can you get a better man than G. Frank Lydston to tell you how to treat syphilis or to solve for you the problem of male impotence?

Is there any one who can help you more with the problems of sex than W. J. Robinson?

Would you not enjoy a series of papers on the common skin diseases by a master like E. A. Fischkin?

Aren't you anxious to read B. G. R. Williams' stories of the clinical laboratory, in which he tells you what findings mean *in terms of treatment*?

Furthermore, we know of no one who treats of obstetrical problems from the standpoint of the everyday physician better than William Rittenhouse; who can help you more in "Everyday Surgery" than Benjamin H. Breakstone; give you more real practical pointers in the "Medical Emergencies" than George H. Candler; or relate the vivid practical experiences of a country surgeon with more real insight and enthusiasm than Ralph St. J. Perry.

We do not claim to have been the first journal to talk about the business interests of the doctor. But we have been doing this for twenty—going on twenty-one—years; and this year we are going to put more thought into it than ever before.

We are arranging with good men, such as Maynard A. Austin, to tell you how to get better work out of yourself; Henry B. Hollen will go to the heart of the problem of fees and collections; and we shall have symposia from the many for the exchange of helpful business experiences. Then, Thomas G. Atkinson will give you a course of the fitting of spectacles; and we have arranged with Mr. Arthur H. Busch, a Chicago architect, to draw for us a series of careful, artistic plans for doctors' houses, offices, and a small hospital. There will be a symposium on this topic also.

Now—here is a part of our program for the year. Does it appeal to you? Doesn't it seem to you that you *must* have CLINICAL MEDICINE this year? Go through this number; realize that there are even better ones coming; and we hope that your hesitation will disappear—that we may count you at last among our great family of readers, from so

many of whom we hear almost every day: "Don't stop THE CLINIC. Of all the journals I take and I take many it is *the* one that is indispensable."

It is better to touch a star and die a pauper than to wallow in the dirt with millions.—John P. Altgeld

STUDIES IN OLD AGE: DIGESTION

I wonder whether the future that I picture to myself will not tell us that senility is synonymous with acidity. If age is characterized by a superabundance of lime where it should not be, is there not a corresponding dissociation of acids whereby the lime is liberated?

Take any of the ill-chances to which age is like—overexertion, overeating, fecal retention, exposure and the result is an attack, rheumatic or rheumatoid, with a ready development of acidity. Soda is the old man's friend; and the reason why vichy maintains its hold on the affections of so many notables is, that with every year they learn more to appreciate the value of its natric equivalent.

Of the four causes of rheumatic attacks above named, I am inclined to look upon the third as the underlying cause, the others acting simply as "the last straw." The decline of peristalsis is inevitable; the decline in digestion, however, is rarely attended by a corresponding decrease in the intake of food; clogging of the bowels follows imperfect digestion and the victim acknowledges "the approach of age."

Masticate the food thoroughly and insalivate it until the starches begin to sweeten in the mouth. No teeth? Get a set; or, remember that mastication is only useful as a means of securing insalivation; so, if you must "gum it," hold the soft food in your mouth until it sweetens. Don't bolt your food or wash it down.

Use only hot beverages with meals. Stick to coffee as long as it agrees. When you can omit your morning cup without discomfort, it is time to quit it. Then nothing answers quite so well as oatmeal gruel. Don't sweeten it, unless with a little malt extract; better add salt and butter, also cinnamon.

Only very little albumin—but always some. Your body needs heat-giving materials—sugars and fats—but not much nitrogen. Soups usually are relished and in cool weather form the best form of food for the aged.

Always, daily, a proportion of fresh, living vegetable protoplasm and acid—fruit juices, not preserved but freshly pressed from ripe

fruit. Lacking these, the citrus fruits are a resource, indeed, and in grapefruit we have a refreshing tonic drink of value. Cut a hole in one end, squeeze out the juice and drink it, then fill the shell with water and let it stand until the next mealtime or until you are thirsty. You will soon acquire a taste for the pure bitter infusion.

Eat when hungry; stop the moment appetite is satisfied, even if you have to eject what is in your mouth. If you are not hungry for breakfast, take a glass of warm milk, and if you go without discomfort till noon, be sure you needed no more. That same glass of warm milk at bedtime often affords a good night's rest—or drop seven granules of avenoid in a glass of hot water and drink that after you are in bed. The sense of well being next morning is something notable.

The man who at sixty has learned to manage his digestive apparatus has added ten happy years to his life.

Does everybody know these things? I believe they do—but do they practice them? I trow not.

The tendency to go on eating whatever comes before one, to eat until full, is universal, is primitive, is incurable.

And, so, we die; and the mourners go to God's acre; and our widows set their caps for another victim; and our sons start in to have a good time now that old "tightwad" is out of the way; and our daughters—well, mourning is *so* becoming!

One of the features of old age we shall not try to explain is, that in trouble a man not infrequently turns to his friends rather than to his family. When the Home for Aged Couples opened with a grand flourish in Philadelphia, the whole show came near smashing, because there were no aged couples who wanted to live together! Old man and old woman had had about enough of each other. He found her mean, stingy, petty, caring more for her furniture than for his comfort; snooping about with a lot of old hens whose cackling annoyed him. She found him careless of himself, smelly of tobacco, not nice in his habits or talk, bringing dirt and noise in with him. Besides, each asserted the other snored!

So she betook herself to the Old Woman's Home, where she found congenial company, could knit and gossip, and keep her patches and other treasures undisturbed.

He went to the fraternity house, where he foregathered with others like unto himself, swapped yarns, bragged of early prowess, and had a committee from the lodge come

every week to see if he was happy or wanted anything, and to keep him in tobacco.

It is not so romantic as the story of the aged couple going down the last path hand in hand, but our name is Truthful James, and we are bound to acknowledge that more often than we care to admit Darby prefers the lodge home and Joan has outlived her youthful dreams. As Messenger says:

"Old friends to talk!—
Ay, bring those chosen few,
The wise, the courtly, and the true,
So rarely found;
Him for my wine, him for my stud,
Him for my easel, distich, bud,
In mountain walk!
Bring Walter good:
With soulful Fred; and learned Will,
And thee, my alter ego (dearer still
For every mood).
These add a bouquet to my wine!
These add a sparkle to my pine!
If these I tine,
Can books, or fire, or wine be good?"

Smile, and the world smiles with you. "Knock," and there's no one at home. The man with a grin and a plan to begin, goes where the knocker's not known. Smile, and the world smiles with you. Growl, and the way looks dark. There's many a man who can, and he can, without "cranking" so much, if he'd spark.

—The Silent Partner.

A PRACTICAL TALK ON THE UTERINE DRUGS

There is a group of vegetable remedies the uses of which originally were made known by the Eclectics. From them they went into the hands of that much-abused class, the manufacturers, who in turn presented them to the medical profession at large in the guise of proprietaries. Yes, we know how you feel at the mention of that word—proprietary and Beelzebub being strictly synonymous. However, if you are a reasoning being, let us ask your consideration of this proposition:

These proprietaries are presented to the medical profession as medicines, with a statement as to the uses for which they are recommended. Who is the judge of the merits of a medicinal agent, if not the doctor? And, if each of these remedies presented to the medical profession has succeeded so well that a flourishing business has been built upon it, what is the inference? If the remedy is not a true one, then the medical profession is too ignorant and unskilled in its own activities to detect the fraud! Then the people who desert us for quacks and pretenders are right, and we as honest men ought to quit practice and go into some other line of work.

The *reductio ad absurdum*! The medical profession is not imbecile and impotent. On the contrary, when thousands of us declare we have found a remedy useful in a certain line of ailments, we may safely believe this to be so, and then wait till the pharmacologists tell us why and how the remedy operates.

Among the remedies referred to several are credited with specific action on the female reproductive apparatus. In this group we may place *helonias*, *aletris*, *viburnum*, *caulophyllum*, and *mitchella*. *Dioscorea* also is placed here by some, but it really belongs in another category. This latter plant has decided value in combating the affections of the biliary passages, but we have not found reason for grouping it with the uterines, except as a remover of the causes of reflex irritations.

Turning to the early writers on these native plants, we find them credited, apparently, with antagonistic properties. One and all they are pronounced useful for amenorrhea, dysmenorrhea, and menorrhagia. But how can one and the same remedy increase the menstrual flow and decrease it, how quiet an excited womb and stimulate a sluggish one?

Well, why not? In dealing with the sick, we have a vital and individual problem before us, not a chemical and general one. An existing endometritis may occasion divers symptoms in different women; for the one is full-blooded, the other anemic; the one is fully developed, the other puerile. Still, we believe that there are differences in the action of these closely allied remedies that render each one better fitted for certain differing pathologic manifestations.

For some years we have studied this matter and endeavored to make clinical tests, the results here detailed being the outcome. We are by no means presenting our conclusion as positive, but merely the tentative views indicated by early trials, to guide our many colleagues who may see fit to put them to a test. Thereafter we may find reason for modifying our ideas as suggested by the reports received.

It is unfortunate that the earlier experimenters saw fit to use the ancient shotgun principle, commingling all these remedies in one heterogenous complex and administering such a combination for every possible disorder of the female reproductive apparatus presented. Little real knowledge could be gained by such methods: one never knew which of the ingredients did the work. Administering each remedy alone, we get some definite idea of its powers and applicability.

Helonias seems the best of the group for

dysmenorrhea. Begin its administration two days before the expected menstruation, and it is almost certain that it then will not be painful. Even in those *peracute* forms where the suffering has induced the morphine-habit, the relief from *helonias* has been so decided that the patient could not deny it, being forced to forego this excuse for indulgence in the narcotic.

Aletris is the remedy for menorrhagia. Give it in the same manner, beginning two or three days before menstruation and keeping the patient in bed until the flow has ceased for two days. The following month and at each successive term thereafter a day may be lopped off the bed-staying period, until well within the year the patient merely will have to take the rest every woman ought to take when menstruating.

Senecio is our best remedy for amenorrhea; and in this our own experience is fortified by the weighty authority of William Murrell, the therapist of Westminster. Small doses of this agent should be taken at bedtime during the intermenstrual period, to be increased during the menstrual week to three doses daily. This also is a remedy to be continued for the better part of a year.

Caulophyllum is distinctively the remedy for after-pains; and in the establishment of this tenet our friend Dr. George H. Candler has had no little part. It is one of the most satisfactory remedies at our command for the special service it seems to have been designed to render.

Viburnum is the one really effective remedy to prevent threatened abortion. Leave out the syphilitics, where the treatment is too specific to be questioned, and we have no other drug more positive in its results. So, whenever abortion is threatened, go to work and saturate the patient with *viburnum prunifolium* until the uterus quiets down and behaves itself. In the cases of women where repeated abortions have occurred, put the patient to bed two days before the menstrual period, and keep her there under the influence of *viburnum* for a full week.

Mitchella repays we have to dismiss—we have as yet found no occasion for its employment. *Passiflora* has no specific mission upon the uterine organs, but it is a valuable nervous sedative.

For all these remedies the rule holds good that, to secure the best results, we must resort to the small and frequent dose. When administering *senecio* or other remedies during the intermenstrual period, we give one dose at bedtime, invariably dissolved in

hot water. During the acute period or menstrual week, give still smaller doses, also in hot water, every three, two, one or one-half hour, according to the need; increasing the frequency, but not the size, of the dose as the symptoms are crescent, decreasing the frequency as they wane.

Our preference is for the purified extracts, or concentrations, in granule form. Very good liquid preparations are to be had—very good when they leave the makers—but the conditions are peculiar. These are not ordinary cases. One may have to carry his remedy for a long time before he needs it, but when he does need it he needs it badly and must have it in full strength. Then to find a cork loose and the fluid escaped or decomposed is apt to induce profanity and, worse, breed therapeutic skepticism. The granules are effective when made, and remain effective even after years.

Fill a little case with a supply of these remedies, label it "Uterines," and stick it into your satchel. Of course, you will provide a supply of those matchless antispasmodic drugs, glonoin, atropine and strychnine, for use separately or combined.

With these remedies you have the means of relieving most of the female pains, without resort to opiates—and what that means you know as well as we.

The women are the true conservators of the race. The men are the wastrels, the adventure-lovers and gamblers, and in the end it is by their women they are saved.

—Jack London.

THE FUTURE OF INTERNAL MEDICINE

Our friend and Nestor, Dr. John B. Murphy, has more than once within the last few years given unmistakable evidence, in his public utterances, of being a good deal of a seer and prophet. No more conspicuous instance of the distinguished surgeon's insight and foresight is to be found than his significant declaration before the recent Congress of American Surgeons that the future of medical science and practice lies, not in surgery, but in internal medicine.

"If you were to ask me," he said, "whether, if I were to start in to study medicine today, I should take medicine or surgery, I should tell you without hesitation that I should start in internal medicine. The advance of internal medicine in the next quarter of a century will be enormously greater than that in surgery. Internal medicine has enormously more possibilities than surgery has. It is internal medicine that goes into details,

makes a careful examination, and analyzes, and endeavors to arrive at a diagnosis."

Significant and prophetic words, indeed, especially as uttered before a congress of surgeons! In effect, they serve notice on the surgeon that his day is almost run, that his influence upon medicine well-nigh has reached its limit, and that from this time on every step in advance in medical science will set the surgical indicator back a little nearer to vanishing point. And, in fact, it required no great degree of prescience or second sight on Doctor Murphy's part to make this prognostication, but only a keen discernment of the signs of the times, a mind alert to read the handwriting on the wall. He might, with equal justification, have declared that "the advance of internal medicine in the past ten years has been enormously greater than that in surgery."

The marvelous, almost revolutionary, achievements wrought within the past decade in immunity and biologic therapeutics alone eclipse all the achievements of surgery put together in the same period; and the end is not yet. In diagnostics, the advance has been almost, if not quite, as phenomenal; so that even surgery itself owes a large degree of what progress it has experienced to the diagnostic aid it has borrowed from internal medicine.

And, for the future, the far-reaching work that is now being done by Abderhalden and his school promises to usher in an era of medical science which bids fair to rival, perhaps to surpass, that which Pasteur and Ehrlich inaugurated in the last century.

But no doubt the fundamental factor in insuring the future supremacy of the internist over the surgeon consists in the significant fact that medicine is moving, surely and rapidly, toward the goal of prevention. And the surgeon's proper art hardly can be said to have any place in the real prevention of disease. At best, its preventive influence can not extend beyond the heading of certain ailments in the individual, by removing or modifying the physical *fons et origo*.

Such a preventive office can be exercised only toward an individual, and then only after the beginnings of disease have found a lodgment in the body. It can have no perceptible effect upon the health of a community or of a generation, and but little influence upon the biologic aspects of disease even in the individual.

It may be freely granted that surgery is a useful measure in the checking of certain disease-processes in the patient; serving to

prolong his life of health and comfort to an otherwise impossible length. To this extent, it may be allowed a place in preventive medicine. And to the same extent, a similar role may be conceded to every curative phase of medicine.

But in the essential conception of preventive medicine surgery not only plays no part at all, but is, in many ways, a positive hindrance to it—especially to individual prevention—since the very ease and impunity with which surgical operations are performed serve to discourage what otherwise would be imperative efforts in the direction of etiology and prophylaxis.

In its technical sense, in fine, surgery has to do with the cure of local diseases or injuries, by means which are equally local; and such an art manifestly can have no inherent place in a system of medicine the object of which is to prevent the occurrence of disease.

This outlook of internal medicine and this frank acknowledgment of it from one of the high priests in the temple of surgery ought to be a source of great inspiration and encouragement to the physician, who for years has been passively accustomed to see the honors and the golden rewards of the profession flow steadily into the coffers of the surgeon. He may hope in a very short time to share, at least equally, in these distinctions and emoluments.

It is no extravagance whatever, we believe, to predict that by the time the generation of men who are now in their earlier years of studentship come into the prime of their professional careers the tide will have set in the other direction altogether, and the internist will rank, both in prestige and in remuneration, as far ahead of the surgeon as the surgeon now supersedes the physician.

And here is another complaint I bring against John Barleycorn. It is these good fellows that he gets—the fellows with the fire and go in them, who have bigness, and warmness, and the best of the human weaknesses. And John Barleycorn puts out the fire, and soddens the agility, and, when he does not more immediately kill them or make maniacs of them, he coarsens and grossens them, twists and malforms them out of the original goodness and fineness of their natures.

—Jack London.

THAT SCHOOL-ROOM PEST: THE HEAD LOUSE

Some months ago we published several short communications concerning methods of destroying that incessant foe of the school-ma'am, the head-louse. As a means of combating this nuisance, one of our correspond-

ents recommended the free application of hair-oil; one of the editorial staff spoke a word in favor of tincture of larkspur; and still another urged applications of kerosene. We are pleased to learn from an authority that can be depended upon, if extent and variety of experience are any guide, that all three of the agents mentioned are useful in these cases; that is, up to a certain point. Dr. Joseph Sobel, who is connected with the Department of Health of the City of New York, and who contributes to *The New York Medical Journal* an article upon this topic, is the source of our information.

To dispose of the matter of treatment first, we may, cite from the "instructions to parents" provided by the New York Board of Health and given in Doctor Sobel's article, the advice, to saturate the hair with a mixture of equal parts of kerosene and olive-oil, after which the head is to be covered for six to eight hours with a rubber cap or a large towel. The statement is also made that tincture of larkspur may be used instead of the oil mixture; the directions for use being the same. The instructions conclude with this note: "Nits: If the head is shampooed regularly each week, as above described, it will cure and prevent the condition of 'nits.'"

Now, a "crop of lice" undoubtedly is a very humble and perhaps a vulgar topic for an editorial, but that it is an important one Doctor Sobel certainly can prove to the satisfaction of anyone who will read his article.

The louse is ubiquitous, ceaseless in his activities, and apparently blessed with immunity to all efforts to destroy him. Most other school diseases are disappearing; very slowly in some cases, to be sure, but, nevertheless, shrinking in numbers from year to year. There is less ringworm, conjunctivitis, trachoma, scabies, favus, and other such communicable affections of the eyes and skin; yet, the percentage of pediculosis is practically at a standstill, and these cases vastly outnumber all the rest.

During the last four years, there have been from 150,000 to 185,000 cases of pediculosis capitis in the New York public schools—or from 22 to 23 percent of the total enrollment. In 1912, the last year reported, there were 802,837 children in the schools of Greater New York, and of these 184,907 suffered from the ravages of the head-louse.

In spite of the optimistic statement as to the annihilability of the nits, voiced in the official circular just cited, Doctor Sobel expresses a pessimism which seems justified by the preceding statistics. He quotes with an

air of approval and almost resignation the statement of the principal of one school, that "the inspector may come and the nurse may go, but the nits seem to increase forever."

When we consider that "a single female pediculus will have five thousand descendants in eight weeks," and bearing in mind that thousands of these children come from homes which run the whole gamut from simple dirt to inexpressible filth, where other members of the family from grandmother to the baby, and bedding, clothing, and everything else harbor lice in uncountable numbers, and where this condition not only is thought normal but even desirable, then something of the difficulties of keeping these "live stock" out of the schools can be realized.

Nor is the removal of the nits as simple a matter as the official instructions would lead one to believe. As Doctor Sobel forcibly puts it:

"After many years of experimentation with any number of drugs, I am of the opinion that there is but one successful way of removing the nits—other than cutting the hair—and that is by mechanical means. Patient, persistent, painstaking removal of the nits, strand by strand, with the hand, sandpaper, or a fine-toothed comb is the only successful plan for pronounced cases. The various drugs may loosen a few nits, but the majority will succumb only to forcible eviction. This is something that must be taught, explained, and shown to the patient."

In other words, while our kerosene or larkspur will destroy the lice, they will not prevent the recurrence of new crops from the multitude of unhatched "eggs." To accomplish this, we must attack the hairy scalp with vigor and intelligence; must keep at it day after day; and must seek cooperation in homes where ignorance is self-sufficient bliss and simple cleanliness a thing undreamed of. No wonder Doctor Sobel strikes a pessimistic note. No wonder, also, that he has a word of praise for the American negro, who, whatever his faults, keeps his children relatively more free from lice than his white brethren of the slums.

The problem of the head-louse is not confined to New York. Wherever there is a large alien population this filthy parasite furnishes a problem. Consult the long-suffering young woman who teaches in the public school, and she will tell you something of her struggles to keep *your* children's heads free from this foreign invasion. Why not help her all you can, not so much by free advice as to kerosene and larkspur, as by

joining with other good people who are battling with the problem of the slums?

I am very optimistic about the future. There is bound to be a revolution sometime. There is bound to be a weeding out of the unnecessary, a rejection of the faults, an acceptance and acknowledgment of that which is true.—Finley Ellingwood. The revolution is already going on. The new therapy is already knocking at our doors. The true is even now coming into its own!

THE AMERICAN COLLEGE OF SURGEONS

Between the extravagant enthusiasm of the advocates and fellows of the newly organized College of Surgeons, on the one hand, and the violent denunciations of its opponents and outsiders, on the other hand, how shall the innocent bystander arrive at a just estimate of its motives and methods and probable effects? The secretary of the College declares that the difference of attitude represents the difference in viewpoint of those who are on the inside looking out, and those who are on the outside looking in. And it may possibly be true that a certain proportion of the bitterness of the outsider is, in fact, the bitterness of sour grapes.

Still, the rather ill-chosen remark of the secretary raises the suspicion that, after all, there may be some ground for resentment. At all events, it is clear that, so long as these extreme sentiments between the two factions prevail, it is useless to look to either of them for a fair and impartial characterization of the new enterprise. One must make his own observations and draw his own conclusions.

As to motives, let us assume that they are of the best; not, as the secretary of the College puts it, "the prevention of legalized murder by incompetent surgeons," but rather the stimulation of efficiency and the raising of standards and the promotion of interests among surgeons.

Very well, these are indeed legitimate and praiseworthy objects. However, it may reasonably be doubted whether in these days there is any particular need for an organization of this character for such purposes. One is inclined to think that never in the history of medicine was there *less* need for such a movement. It would seem that the practice of surgery is already amply hedged about with provisions and stipulations, both educational and legislative, which scarcely are in need of any stimulation or addition at this time. There is such a thing as organizing and legislating to death.

Granting, however, the desirability of an organization of the character and for the purposes set forth in the constitution of the College, it hardly strikes the impartial observer that the methods employed by the founders are calculated to further the ends in view. If the ostensible aims of the College are its real aims, it is certainly going about it in a very peculiar way to carry them out.

The negation and destruction of that professional and scientific democracy under which American surgery has made such wonderful growth that it now leads the world; the incitement of bitter class-jealousies and hard feelings among those who are equally entitled to encouragement and honor; the crushing of endeavor and the blighting of ambition in younger and less-known surgeons, by setting arbitrary caste limitations upon their field of effort and achievement; these hardly seem to the disinterested spectator the very best means that could be devised for stimulating efficiency and raising the standards of surgical science and practice. Indeed, it looks to this writer as though the American College of Surgeons, in its present form and under its present operation, is a step backward rather than forward in the development of surgery in this country.

A few paragraphs back we suggested that there did not appear to be any special need for such an undertaking at this time. Even if we eliminate from the manifesto of the secretary of the College the disagreeable suggestion that lurks in it, we still are inclined to the opinion that his declaration expresses the real informing motive of the movement.

There is a feeling among the "elect" of American surgery—partly genuine, no doubt, and partly interested—that there is altogether too much surgery being done by the average man, the general practitioner. We rather think that would be frankly admitted by the founders and fellows of the new College as its real underlying animus, if one could get any frank expression from them at all. And, if, as seems to be the corollary of the proposition in the minds of the founders, this widespread practice of surgery which has developed in the last ten or twenty years were in the main incompetent surgery, then it would constitute a very legitimate, and even urgent, ground for action.

But a very casual consideration of the facts will convince any reasonable person that such is not the case. On the contrary, this class of surgery, on the whole, is remarkably competent surgery. There never was a time in the history of medicine when the young

graduate was going out into practice with such an adequate preparation for doing surgical work as he is now. He is, in fact, ten times more fitted to practice surgery than to practice medicine.

The impetus which the influence and achievements of these very men who are now founding the College of Surgeons has given to surgery during the past decade or two has invested surgery with such towering importance and surrounded it with such large financial rewards that it has altogether eclipsed medicine in the college curriculum. Furthermore, the steadily increasing rigor of educational requirements has insured to the student more and more exacting preparation, including, in most cases, a final year or two of actual clinical work as hospital interne.

So it is that the graduate of today, if he possess only the average degree of intelligence and aptitude for his work, leaves school at about the same stage of efficiency and experience which formerly it took two or three years of outside practice to attain—to say nothing of the superiority he gains from constantly advancing standards in surgery at large.

Hence, it appears to us a most inopportune time for the secretary of the College to be talking about "stopping legalized murder at the hands of incompetent surgeons." And, furthermore, as we have previously hinted, all this splendid diffusion of efficiency and general raising of surgical standards throughout the profession at large has come about as the result of the magnificent system of professional democracy that has always prevailed in this country.

Now, to destroy this democratic system by a weak imitation of English institutions (about as weak and foolish, by the way, as that of the New York fop who imagines that an eye-glass and a cane and turned-up trousers constitute an imitation of British aristocracy) is to turn the hands of the surgical dial backward, rather than forward. We should not be surprised if it marks, even though it may not perceptibly constitute, the point of arrest in the development of American surgery.

Perhaps—tell it not in Gath, whisper it not in the streets of Askelon—perhaps this is the real thought in the minds of the founders of the College. Perhaps they have read the handwriting on the wall, that the days of surgery are numbered; that its natural limitations have been reached, and that this, in conjunction with the thorough surgical training of the medical graduate, is destined to make the surgery of the future a mere

incidental tool in the hand of the medical man; and—who knows—this College movement is a last frantic stand, to catch the fleeting moments as they fly.

THE ADVERTISING DOCTOR

A western town has ten physicians, all graduates of colleges of approved merit, and men of repute as citizens and in their profession. The community has no poor, and few working-men: a town of retired farmers and the men who collect at the county-seat—which means a superior degree of culture.

To this town comes for two days every month an advertising doctor, whose picture with a column of his claims ornaments the local paper each week.

The settled physicians are fairly busy, but not one has more than half of his time occupied professionally. During the days the traveling man is there, his rooms are crowded, and he takes in more money than any two of the local men collect in a month.

Very naturally, the local doctors do not like this. They designate the traveler as a quack, and get wrathful when he is mentioned.

What is the difficulty?

There are two ways of considering this question.

The usual method is, to call the intruder names and denounce everybody who does not similarly abuse him. The one certain result of this is to create sympathy for the abused man in the minds of the laity.

The other method is to examine the case dispassionately, get at the causes, and see whether a remedy may be advised.

I expect some of the more violent ones will accuse the writer of favoring the advertiser, because said writer takes this second course. But, surely, a general should not be blamed if he seeks to spy out his opponent and fathom his plans.

Let us hear what plea the advertiser puts up for himself. Here is his statement:

"I am a graduate of a regular medical college, an A-plus *cum laude*. I am a sober, normal, God-fearing man. I read my Bible from cover to cover, and nowhere do I find the commandment, 'Thou shalt not advertise.' But I do find, 'Thou shalt not steal' and 'Thou shalt not bear false witness.' I have never taken from any man a dollar I did not honestly earn. I never performed or advised an unnecessary operation nor gave any kind of treatment for the sake of the money only. I have patients here I have treated for sixteen years, and still hold them.

I take and read more medical journals than all ten of the town doctors together. I never lose a chance of improving my methods, and if I cure cases they can not it is because I try the new methods which they neglect. I stand by every word of my ads and will pay any man \$500.00 who will show a promise I do not make good. I advertise the truth."

To get a sideview of the case, I talk with some of the leading citizens. They corroborate the advertiser's statements. He has refused to treat one of the wealthiest citizens, telling him bluntly he needed no treatment, his trouble being that he ate too much. He sent a penniless patient to a city specialist, paying the fees himself, the case being beyond his own skill.

I ask about the other doctors, and am informed that they seize every opportunity to rush a patient off to the city for operations, dividing with the surgeon the fees he received.

"They don't try to cure people any more," is a common complaint. "Doc Ad takes the cases in which they fail, and cures them. He beats them out of their boots at their own game."

Only one of the town doctors use the active principles, and he is the busiest of the ten. And, yet, I happened to know that a firm of manufacturing pharmacists has refused to sell its products to the advertiser, turning down an order for a half million granules, because it would not aid him against the regular profession.

There is his case. Consider it. That he has transgressed a vital principle of the code of ethics is certain, and God forbid that I or this journal should countenance this or anything that tends to lower our standards; and stealing, cheating, destroying the confidence of trusting patients for the sake of money are among these.

I am not assuming that the charges mentioned are true; but I do say that many persons in such a community believe them to be true. True or false, I indict the medical profession for having allowed such a belief to become prevalent, even if it be false. The honor of the profession has not been upheld by those whose duty it was to uphold it.

As for this advertiser, "Let him among you who is without sin cast the first stone."

I do say this, without fear of contradiction, that if the family physician would study his cases, utilize the modern scientific methods of laboratory diagnosis without throwing away his own knowledge, and apply the improved methods and weapons of modern therapeutics, he would have nothing to fear from any traveling advertiser.

In other and plain words, if, with all the advantages the man always on the ground has, he lets any occasional sojourner beat him out of his boots in his own town, it is his own fault and he does not deserve a particle of sympathy. Dull stupidity, that will not learn, but pulls back mulishly whenever you try to lead him to his oats, will always be beaten by the shrewd, alert, up-to-date charlatan.

I am in sympathy with every honest effort to rid the community of quackery, and newspapers like *The Chicago Tribune*, which is driving from town the harpies who defraud and deceive, deserve our commendation and support. Yet, after all, the best defense against quackery is honest, skilful, result-bringing service. Medical inefficiency is the charlatan's opportunity.

It may be that you cannot stay
To lend a friendly hand to him
Who stumbles on the slippery way,
Pressed by conditions hard and grim;
It may be that you dare not heed
His call for help, because you lack
The strength to lift him—but, you need
Not push him back.

S. E. Kiser.

TWENTY-FIFTH ANNIVERSARY OF THE PASTEUR INSTITUTE

Upon November 14, 1888, President Carnot officially opened the Pasteur Institute in Paris. Upon November 18, 1913, the twenty-fifth anniversary of the founding of this institution was celebrated, and again the head of the republic—President Poincaré—was present, carrying to this now historic institution the greetings of the French nation. He placed a wreath upon the tomb of Pasteur, which is located in the main building of the Institute, while Doctor Roux, the present director, delivered an address in which he told something of the history of the institution.

The Pasteur Institute was built with money raised by popular subscription, entirely independent of the state and free from all political connections; the large sum of more than \$500,000.00 being thus obtained to defray the expense of its foundation. Twenty-five years ago Pasteur himself was still living and took charge of its research-work. He passed away in 1895, and many of his earlier associates, men like Duclaux, Chamberland, Binot, not to name others, also are gone. Those at present at the head of the institution are Roux and Metchnikoff, both men whose position in the scientific world is the very highest.

The Pasteur Institute was the first—and it probably remains the greatest—of research-institutes. It may almost be said that laboratory investigation in medicine began in the Pasteur Institute, just as bacteriology itself began with the work of its founder, Louis Pasteur.

Since its foundation, many changes have taken place in the Institute. It has greatly expanded, so that now there are two buildings instead of one. The staff has increased in number and includes some of the most brilliant men in the world of science; we need but mention the names of Roux and Metchnikoff, Laveran, Calmette, Bordet, Martin, Dujardin-Beaumetz, Besredka, Mesnil, Levaditi, and Charpentier; and these are only a few of the research-workers identified with its history and who are still directing its activities.

Many of the greatest discoveries in the history of medicine were made by these men. While it was Pasteur's own work in discovering a cure for rabies which led to its organization, it was not long before this institution embraced in its studies all the problems of medicine. Thus, for instance, Roux divides with Behring the honor of the discovery of diphtheria antitoxin. Metchnikoff's work on immunity, especially on phagocytosis, takes rank with that of Ehrlich. At the Pasteur Institute epoch-making studies have been conducted on the plague bacillus, on the microbe of pleuropneumonia, the prevention of syphilis, on poliomyelitis, dysentery, malaria, sleeping-sickness, and surra in animals.

Also, the Institute has sent out thousands of students who have taken its educational courses and carried its ideals and enthusiasm to all the corners of the world. To give only one instance: two thousand men have followed the course in microbiology founded by Roux; and others the courses in biologic chemistry, in clinical biology, in yeasts and enzymes, and hygiene. The Institute also maintains a hospital with eighty beds, in order to have opportunity for determining clinically the value of the laboratory researches made within its walls. In the antirabic department alone, more than 34,000 patients have been treated, and branches for administering this treatment are maintained in every large city in the world. The Institute is also engaged in the manufacture of serums, which are supplied to the French army and to the department of public health.

The greatest service of Louis Pasteur and

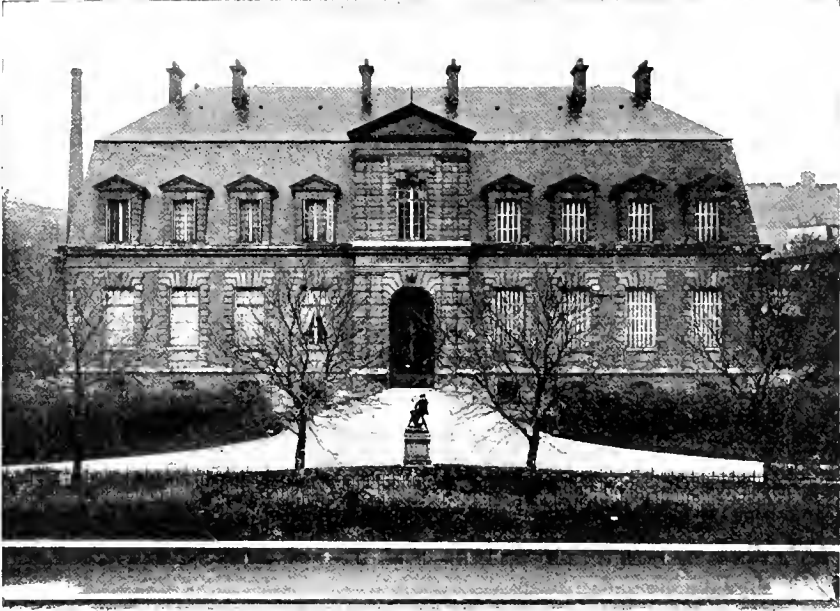


Photo: Underwood and Underwood

THE PASTEUR INSTITUTE, PARIS

This institution was founded by Pasteur twenty-five years ago. It celebrated this anniversary on November 18, 1913, Professor Roux giving the address

of the Institute which he founded, however, has been pointed out by a writer in the *Paris Medical*. Through this man and his work the science of medicine has been revolutionized within the last twenty-five years. The progress of medicine can be accomplished only by the combination of the laboratory with the hospital. The more we have of laboratories in the hospital, and the more we have of workers in the laboratories, the more rapidly shall we succeed in finding solutions for the great problems of disease.

Upon the inauguration of the Institute, in 1888, Pasteur closed his oration with the following words, which seem peculiarly significant in the light of the history of the last few years and the promise of the future:

"Two opposing laws seem to me now in contest. The one, a law of blood and death, opening out each day new modes of destruction, forces nations to be always ready for the battle. The other, a law of peace, work, and health, the only aim of which is to deliver man from the calamities which beset him. The one seeks violent conquests, the other,

the relief of mankind. The one places a single life above all victories, the other sacrifices hundreds of thousands of lives to the ambition of a single individual. The law, of which we are the instruments, strives even through the carnage to cure the wounds due to the law of war. Treatment by our anti-septic methods may preserve the lives of thousands of soldiers. Which of these two laws will prevail, God only knows. But of this we may be sure, that science, in obeying the law of humanity, will always labor to enlarge the frontiers of life."

THREE DISTINGUISHED EUROPEANS

Chicago has been honored, during 1913, by the visits of a number of distinguished English medical men. Of these, none has attracted more interest than Sir Rickman John Godlee, of London, the president of the Royal College of Surgeons, who, in November, came to this city to deliver the inaugural address upon the occasion of the establishment of the American College of Surgeons.



Photo: Underwood and Underwood

JEAN BAPTISTE JUPILLE AND HIS STATUE

Jupille was the first person vaccinated against hydrophobia by Pasteur. The statue representing him struggling with a rabid dog stands in front of the Pasteur Institute.

Sir Rickman Godlee was educated at London University, receiving his B. A. degree in 1867, and his M. S. degree in 1873. In 1872, he finished his medical course, and in 1876 became a fellow of the Royal College of Surgeons.

In the course of an eminently successful career, Sir Rickman was appointed professor of clinical surgery in the University College Hospital, honorary surgeon in ordinary to the King, and, finally, in November, 1911, president of the Royal College of Surgeons. June 14, 1912, upon the occasion of the king's birthday, he was made a baronet by

George V. He is the author of a work on anatomy, and has made numerous other contributions to periodical medical literature. It is of pleasant interest to know that he is a nephew of the late Lord Lister.

The contributions of Prof. Emil Abderhalden to medical science during the last two years are among the most enticing and practically valuable of the epoch-making period in which we live. As a result of the study of the prophylactic ferments of the body-tissues, he has been able to introduce definite diagnostic blood tests for pregnancy



SIR RICKMAN J. GODLEE, BART.

The President of the Royal College of Surgeons, England, who came to Chicago in November to inaugurate the newly established American College of Surgeons

and for carcinoma, measures that add greatly to the physician's resources and give promise of still further development in other fields.

Professor Abderhalden was born in Oberuswyl, St. Gall Canton, Switzerland, on March 9, 1877. He was admitted to practice in 1901, received his degree of Doctor of Medicine, at Berlin, in 1902, and since then has been honored as few young German scientists have been. His remarkable advancement rivals that of Schaudinn. In 1908, Abderhalden received the title of professor; and in the same year was appointed to succeed

Munk in the chair of physiology in the veterinary college at Berlin. Three years later he was appointed to a similar position at the University of Halle, succeeding Bernstein. He has already declined two flattering calls to professorships in great universities: in 1908, one to Tuebingen, and in 1913 one to Vienna.

Professor Abderhalden has been a voluminous writer on physiologic topics, his book on physiologic chemistry having gone into three editions and been republished in English and German. His work on prophylactic ferments ("*Abwehrfermente*"), has been



PROFESSOR EMIL ABDERHALDEN

This distinguished young scientist has devised blood tests for the early diagnosis of carcinoma and pregnancy. He is professor of physiology at the University of Hille

equally successful, and is also available in English and Russian.

As already intimated, Abderhalden's work is of an exceedingly advanced character and promises to be revolutionary in diagnosis, and perhaps also in therapeutics. By facilitating the early diagnosis of one of our most dreaded diseases, it should be potent for the saving of many lives; and, meanwhile, its principles are being applied in many other directions, and what they may bring forth no man can tell. Watch this young German.

—

Pierre Paul Emile Roux, director of the Pasteur Institute, was born in Confolens,

Charente, France, December 17, 1853. He studied at the classical college in his home town, then entered a medical career in the medical school in Clermont-Ferrand, where he first became associated with Duclaux, whom he assisted in laboratory work. He finished his medical studies in Paris, whereupon he entered the medical service of the French army, at Val de Grace; however, he gave up the prospects of a military career, because it did not offer him facilities for laboratory investigation, in which he was most interested. Soon after this he again associated himself with Duclaux, who in the meantime had gone to assist his old master,



Photo: Underwood and Underwood

DR. PIERRE PAUL EMILE ROUX

Director of the Pasteur Institute, who took a prominent part in the celebration of the twenty-fifth anniversary of that great research institution

Pasteur. It so happens that Professor Roux has been connected with the Pasteur Institute since its establishment in 1888.

The name of Roux is identified with nearly every great movement in bacteriology and biologic therapy. His graduating thesis dealt with new discoveries regarding rabies, being a record of studies made in association with Pasteur, and culminating in the introduction of the Pasteur vaccine treatment for this disease, in 1905. His work on the etiology of diphtheria, conducted in association with Versin, culminated in the discovery of the greatest therapeutic remedy of modern

times, diphtheria antitoxin, in which he divides honors with Behring. Professor Roux has also made notable experimental investigations and discoveries in the etiology and treatment of tuberculosis, bovine pleuropneumonia, tetanus, the plague, and many other diseases of an infectious character.

Upon the death of Pasteur, Roux became a sub-director of the Pasteur Institute (in 1906) and finally succeeded to the directorship of this great enterprise, where he continues a leader of the biologic work of the century. Much of the development of the Institute is due to his energy and acumen.

Leading Articles

The Treatment of Syphilis

As Modified by Recent Advances in Therapy

By G. FRANK LYDSTON, M. D., Chicago, Illinois

Author of "Diseases of Society," "Genitourinary, Venereal and Sexual Diseases," "Sexual Hygiene for the Male," etc

UNTIL recently the treatment of syphilis had remained essentially the same for ages. There were differences of opinion as to methods of administration, but mercury and iodine were the "reliables." Mercury is still our stand-by, while iodine has now a barely justified third place.

The treatment of syphilis naturally comprises, first, the treatment of syphilis *per se*; second, the treatment of parasyphilis, i. e., conditions in which—while active syphilis can not be shown—the morbid phenomena are indubitably due to syphilis, more or less remote.

In all parasyphilitic conditions, the effects of treatment and of bad habits must be considered.

Local Treatment

With the proper use of mercury and salvarsan, the local treatment of chancre is of no importance. Uncomplicated chancre promptly disappears under wise constitutional treatment. Chancre complicated by chancroid requires the same local measures as does simple chancroid under other conditions, namely, cauterization and the various antiseptic powders, of which latter iodoform is king.

Chancre should be kept clean, dry, and free from sources of irritation. Simple black or yellow wash or dry calomel are useful. The calomel should be pure. When irritating, it contains free bichloride.

Abortion of Syphilis

Experienced syphilographers abandoned as a fallacy the notion of aborting this disease long ago. The author experimented with it largely and once fancied that syphilis was modified by excision of chancre. Recent attempts to revive the "aborting" of syphilis by destroying the chancre by means of

cautery or removal by excision have been made by tyros, who proverbially disregard all landmarks in syphilology. These experimenters possibly may learn more from their own experience than they have from that of their masters.

The discovery of the spirochete has not altered the status of the "abortive" treatment. In brief, it neither aborts nor modifies syphilis.

Prior to a positive diagnosis a presumptive chancre should be treated as little as possible and managed as if it were known to be chancre.

Complications of chancre demand treatment upon their own merits. If a diagnosis has not been made, the possibility of syphilis always should be borne in mind.

Destructive ulceration, phagedena, gangrene, and lymphangitis demand rest, perhaps the cautery, and hot or cold antiseptic applications. The actual cautery is best, and pure bromine second in value. Nitric acid is the most universally serviceable.

The diagnosis of chancre once established, mercury or salvarsan will rapidly clear up the condition.

In the diagnosis of chancre, the Wassermann test is useless before general blood infection, which is not necessarily shown by secondary symptoms.

The finding of the spirochaeta pallida, like the Wassermann test, when positive, is confirmatory of syphilis. When the test is negative, the diagnosis should still be open.

General Treatment of Syphilis

The general treatment comprises all measures which tend to preserve the general health and aid the specific treatment. Proper exercise, regulated diet and hours of sleep, plenty of fresh air, and freedom from worry

are essential. Frequent hot baths and the ingestion of large quantities of pure water are splendid aids.

Tobacco and alcohol should be interdicted—there should be no compromise. If given any latitude, the patient always abuses it. Many uncured cases of syphilis are chargeable to disobedience on the patient's part or to the doctor's "good fellowship," ignorance or inattentiveness.

A term at a health-resort or some mineral spring often is useful in assisting in the treatment of rundown victims of syphilis; these measures, though, never cure syphilis. Patients who resort to these places are in danger proportionate to their confidence in the potency of the waters. This confidence, fostered by mercenary quacks, leads to ultimate disaster.

Duration of Treatment

Despite the extravagant claims made for salvarsan and for the Wassermann test, no patient should be assured that he is permanently cured. A patient who, after three years' systematic treatment, remains free from active lesions for eighteen months subsequent to that is "probably" cured; but he must remain ever after on the alert, that is, he should have more or less frequent Wassermann tests and twice yearly a short course of treatment.

Time may show that the foregoing is too rigid, but as yet neither patient nor physician can afford to take chances in so tricky a disease as syphilis or to rely implicitly upon a blood-test or any new remedy.

Marriage

The same rule as to "probable cure" applies to syphilitics marrying. A "probable" cure means that marriage "probably" is safe. The physician, however, should lay the responsibility where it properly belongs—upon the shoulders of the client, and should not himself assume it. The danger of transmitting a faulty constitution to a child may be present long after the possibility of conveying active syphilis has passed.

The extent to which syphilis is a factor in the nutritional and developmental defects incidental to a bad heredity probably is far greater than is generally admitted.

Specific Constitutional Treatment

The general treatment of syphilis should observe the following principles:

1. Assistance to the constitution in resisting the disease.

2. Inhibiting the activity or destroying the life of the spirochaeta.

3. Eliminating germ and tissue byproducts incidental to the action of the spirochaeta.

4. Breaking down, removing, and eliminating syphilitic products as fast as possible.

5. Protecting (by the foregoing measures) important tissues and organs from the effects of syphilitic lesions.

6. Relieving by surgical measures, where necessary, the secondary effects of syphilitic lesions.

7. Most important of all, protecting innocent persons from infection, and defending posterity by regulating the marriage of, and procreation by, syphilitics.

Mercury—How to Employ It

Mercury is still the standby in syphilis. We might dispense with all other remedies—including salvarsan—but not with mercury. Like all other drugs, mercury should be used scientifically. When so employed, it gives, in the large majority of cases, permanently good results. Mercury should be given as soon as the diagnosis is positive.

Where it is practicable to employ mercury, the inunction-method gives very satisfactory results; 1 dram of 50-percent mercurial ointment daily being the most effective average dose. The drug should be given in courses of from twelve to twenty-four "rubs," according to tolerance, the gums and mucous membranes of the mouth and tongue being carefully watched for possible stomatitis. A slight bluish line about the gingival edges, and slight pyalism, indicate that the point of tolerance has been reached. The teeth and gums should at once be put in order, and kept in order during the entire course of treatment. The dentist is the syphilologist's best friend.

The courses of inunction should be intermitted for a month or so, varying with the individual case. Inunctions may be replaced, interchanged or aided by intramuscular injections or the internal administration of mercury.

Iodide of potassium in moderate doses and largely diluted with water is useful as an eliminant between courses of mercury. The iodide may be combined with mercury, in the form of the old reliable "mixed treatment."

Should severe pyalism or stomatitis result from the mercury, the oldtime mixture of myrrh and potassium chlorate is quite effective as a mouth-wash. Chlorate of potassium also is useful internally in the

mouth disturbances incidental to mercury treatment; 10 grains, largely diluted with water, four times a day, is the rational dosage. The author believes that this drug is a useful adjuvant in treating syphilis.

The Intramuscular Method of Giving Mercury

The site of election for the injection of mercury is the glutei. The entire dose may be injected into one gluteus maximus or, if much pain, swelling or subsequent soreness is complained of, half the dose may be introduced on each side. The injection should be made deep into the muscle.

Ill effects usually result from placing more or less of the injection-fluid into the cellular tissue, which is far less tolerant of irritants (and infections) than is the muscle. In thousands of injections in his own practice, the author has never met with infection from the intramuscular method.

Antiseptic precautions are simple and probably not essential. The mercurial itself is a powerful germicide. The needle and barrel of the syringe should, of course, be surgically clean. A dab of tincture of iodine at the site of injection is sufficient skin preparation.

The most useful preparations of mercury are the succinamide and the salicylate. The dose of the former is from 1-5 of a grain to 1 grain, in 20 minims of distilled water. Of the salicylate, 1-2 grain to 1 grain is the proper average dose. It should be given in oil of sesame. Small doses may be given daily, or a maximum dose every fifth day. Internal administration of mercury and an alkali iodide may be combined with the intramuscular method.

The Intravenous Method

My clinical experience with the intravenous injection of mercury in syphilis has been extensive and favorable. I herewith submit a number of illustrative cases in which I have used mercuric chloride in this way.

In "malignant" cases and serious lesions, intravenous injections afford a safe and sure method of relief. The speedy mercurialization of the blood, and consequent prompt systemic effect of the drug, the relatively large doses permitted, the freedom from the painful effects of subcutaneous and intramuscular injections, and in general the absence of gastrointestinal disturbances especially commend the intravenous treatment. Bowel irritation occasionally occurs from the use of large doses of mercury intravenously. There sometimes occurs sudden severe saliva-

tion, the mouth reacting promptly in some cases.

Illustrative Cases

Case 1. A woman, 30 years of age, in the beginning of the third year of typic secondary syphilis. Pains in the limbs, lowered tendon reflexes, and a sensation of numbness and heaviness of the limbs were complained of at the time I was first consulted, and the patient stated that she had had these symptoms for several weeks. There were no other symptoms suggestive of ataxia. There was slight apparent loss of muscular power over the lower extremities.

I put the patient immediately on intramuscular injections of mercury succinimide; but she proved intolerant of the remedy, the pain being so severe that I was compelled to discontinue its use. Inunctions produced a severe dermatitis, and mercury internally resulted in severe gastrointestinal irritation, the stomach becoming so sensitive that I was compelled to discontinue medication by the mouth.

The indications for radical treatment being urgent, I resolved to try the intravenous injections, giving 25 minims of a 1-percent solution once daily for two weeks. Improvement was noted after the third injection, and the cord symptoms entirely disappeared at the end of ten days. The emergency apparently having passed and the stomach being again tolerant of drugs, I then stopped the intravenous injections and put the patient upon the routine administration of protoiodide of mercury.

Case 2. Woman, 23 years of age, with a gummy ulcer on the right ala nasi. Aside from this single tertiary manifestation of the disease, no lesions had been noticed for several years. The nasal ulcer proved very resistant to treatment. It yielded but slowly, and whenever cicatrization had been complete for a few days the lesion suddenly, without a warning, would recur. Mercury and iodide pushed to the point of tolerance had yielded only temporary benefit.

The patient was a large, well-nourished woman, so I began with 15 drops daily of a 2-percent solution of mercury bichloride. The curative effect of this medication was very quickly noted. The ulcer healed soundly within ten days, and it has remained healed for over a month, during which time the injections have been given twice weekly.

Case 3. A man, 33 years of age. This was a rather unusual case, being one of chancre of the tonsil. The primary lesion

was associated with an enormous cervical adenopathy on the left or corresponding side. The faucial inflammation was very marked. Mercury given by inunction and by mouth acted extremely slowly in this case, and, as deglutition was very painful, the patient complained very bitterly of his condition.

I began intravenous injections of mercury bichloride in a dosage of 15 minims of a 2-percent solution. I did not go beyond this dosage, for the reason that I was apprehensive that the large amount of mercury that had already been given in the ordinary way might suddenly take effect and in conjunction with the intravenous dosage produce disastrous results.

Within four or five days after beginning the intravenous injections marked improvement was noticeable, and resolution of the primary lesion and of the bubo in the neck went on very rapidly. The physiologic effects of the mercury became manifest on the tenth day, so the treatment was discontinued. The improvement, however, went steadily on, and at the end of three weeks the patient was in a very satisfactory condition.

Case 4. Patient, a man 35 years of age, had been under my treatment for syphilis for about five years, the case being a very stubbornly protracted one. Various lesions had appeared from time to time and had healed only after very large doses of mercury and potassium iodide, long continued.

The patient had been under tonic doses of mercury constantly for a period of six months, during which he had been, apparently, well. However, he suddenly again made his appearance for advice, presenting a gumma of the soft palate. This softened, broke down, and perforated within forty-eight hours. It appeared so malignant that I resolved not to rely on antisyphilitic remedies administered in the ordinary manner, and therefore put the patient on intravenous injections, using 20 minims of a 20-percent solution of mercury bichloride daily. Marked improvement was manifest at the time the third injection was given.

A permanent fistula undoubtedly will result in this case, but the destruction of the tissue was speedily checked and the process limited to an area very much smaller, in my opinion, than would have been the case with any method of treatment other than the intravenous.

Case 5. Woman, 40 years of age, under treatment for locomotor ataxia undoubtedly of syphilitic origin. This case was very difficult of management because of the

intolerance of the stomach for mercurials and iodides, as also the extreme irritability of the skin, which practically prohibited inunction-treatment.

Some improvement in the symptoms was noted soon after the routine administration of mercury, but exacerbations of severe pain in the lower extremities continued to be a frequent and annoying symptom, and, as it was impossible to continue the treatment for any length of time, the case was especially trying. Intravenous injections of 1-4-grain doses of bichloride of mercury produced rapid improvement. The patient now is receiving the injections twice a week, and the case apparently is under control.

Case 6. Man 45 years of age suffering from a severe and obstinate cephalalgia of syphilitic origin. Mercury and the iodides were pushed to the point of tolerance, with but slight relief. I substituted the intravenous injections, administering mercury bichloride in 1-2-grain doses daily for one week. Relief was immediate. At the end of the week the headache had disappeared entirely. Injections are now being given semiweekly.

Case 7. Man, 50 years of age, whom I had treated for syphilis twenty years before, reported to me, suffering from nocturnal headaches and cerebral symptoms that were decidedly suggestive of an incipient paresis. Inability to concentrate as well as suspiciousness were noted, and the impairment of his psychic faculties had given rise to considerable alarm on the part of his friends. Gastric irritation and constipation were prominent symptoms, and these, together with the evident presence of autointoxication as a complication, gave the case a much more favorable aspect than otherwise it would have possessed.

The patient absolutely refused to submit to inunctions, and, as the stomach proved intolerant of mercury and the iodides, I resolved to try the intravenous method. First, restoration of the bowel function was attempted, with gratifying results, the mental symptoms improving markedly within a few days. The headaches, however, continued.

Then daily intravenous injections of 1-4 of a grain of mercury bichloride were begun. The headaches began to improve within three or four days after instituting the treatment, and within two weeks had entirely disappeared. For six weeks, during which time the patient has been taking no treatment, he had remained well, apparently. He will not submit to steady treatment, but has promised

to take a course of intravenous injections several times every year.

Case 8. A delicate woman 28 years of age, without a previous history of syphilis, presented herself with two painful nodes on the right tibia. Nocturnal pains were very severe, necessitating the administration of morphine by her previous medical adviser. She had been given small doses of mercury and iodide of potassium, without effect; large doses were not tolerated.

The patient was put on daily 1-8-grain intravenous doses of bichloride of mercury, with the result that within a few days the osteocopic pains ceased and the nodes markedly diminished in size. Slight permanent thickening of the bone at the affected points, however, resulted. This patient is now taking semiweekly intravenous injections of 1-8 grain of the bichloride, and apparently is doing well.

Case 9. A patient, whom I thoroughly treated for syphilis fifteen years before, reported, complaining of severe pain in the tibiae for the last six weeks. The pain was especially marked at night. Examination showed a diffuse periostitis over both tibiae, with slight thickening of the membranes, some edema, and exquisite tenderness on pressure.

I at once began the intravenous injection of mercury bichloride in 1-2-grain doses. When the patient reported for the second daily injection, he stated that the bone pains had disappeared within three or four hours after the first treatment. Within five days, during which time the intravenous treatment was given daily, the tenderness of the tibiae entirely disappeared. On the

sixth day I began intermitting the treatment because of slight ulceration, evidently of mercurial origin, of the mucous membranes of the cheeks.

It is now five weeks since the systematic daily treatment was suspended, during which time injections have been given twice weekly, and there has been no recurrence of the pain in the limbs and no disagreeable effects from the drug.

Case 10. Physician, 40 years of age, presented himself with a chancre on the right finger, a well-marked typic secondary papular syphilide. Time being an important consideration to the patient, intravenous injections of 1-4-grain doses of mercury bichloride were begun immediately.

Improvement was manifest within three days, the obscure bone pains from which the patient had been suffering having disappeared and the eruption having already begun to fade.

The intravenous injections were continued for ten days, and, the case being apparently under perfect control, were replaced by inunctions. The patient still is under treatment and doing well. He has had considerable experience in the management of syphilis, and characterizes the progress of his case as marvelous.

Case 11. Through the courtesy of my associate, Dr. Carl Michel, I saw with him a case of severe gummatous ulceration of the scalp, in which he obtained a most remarkable result from mercury bichloride intravenously administered. As Doctor Michel remarked, salvarsan could not have acted better.

(To be continued)

PLAYING THE GAME

Life is a game with a glorious prize,

If we only play it aright.

It is give and take and build and break,

And often it ends in a fight;

But he surely wins who honestly tries

(Regardless of wealth or fame);

He can never despair who plays it fair —

How are You playing the game?

Do you wilt and whine if you fail to win

In the manner you think your due?

Do you sneer at a man in case that he can,

And does, do better than you?

Do you take your rebuffs with a knowing gain?

Do you laugh though you pull up lame?

Does your faith hold true when the whole world's blue?

How are you playing the game?

Get into the thick of it—wade in, boys!

Whatever your cherished goal;

Brace up your will till your pulses thrill.

And you Dare—to your very soul!

Do something more than make a noise;

Let your purpose leap into flame

As you plunge with the cry, "I shall do or die!"—

Then you will be playing the game.

—*Philadelphia Ledger.*

The Value of the Wassermann Test

With Reports of Many Cases, and Some Deductions

By E. A. FISCHKIN, M. D., Chicago, Illinois

THE Wassermann test, during the few years of its use, has stood the test of time. It is now universally agreed and proven by hundreds of thousands of tests, made the world over, that a positive Wassermann reaction practically shows the presence of syphilis, and that a negative Wassermann may, under certain conditions, enable us to exclude syphilis from the diagnosis of a disease. Clearly it is not necessary, at this time, to dilate upon the value of the Wassermann test as a method of diagnosing syphilis.

What may be of interest, however, is a description of the application of the test and its interpretation in individual cases. Clinicians, as well as serologists, may differ in their attempts to harmonize the results of a Wassermann reaction with the clinical symptoms of a given case. Therefore, the experience of each worker justifies the analysis and classification of a large number of cases and the derivation from them of general deductions which coincide in the experience of most Wassermann workers. This shall be the object of my paper. From a number of selected cases which I am to report we shall learn as to the working of the Wassermann reaction and its worth for the general practitioner.

Examples of Negative Wassermann Reaction

1. Author's case. Man 28 years of age. Had gonorrhea and its sequelae four years ago. No history of syphilis infection. Vague symptoms. Was treated for syphilis and given a salvarsan injection by a physician. Wassermann reaction negative.

2. Dr. J. V. Fowler's case. Man 29 years of age. Nine years ago had a genital sore followed by a rash one week later which lasted five days. Had at that time a few mercurial inunctions. Wassermann reaction negative.

3. Case referred by Dr. W. F. Jacobs. Man 38 years of age. Exfoliacea linguæ of fourteen years' duration; affected parts atrophic. No history of syphilis. Wassermann reaction negative.

4. Case referred by Dr. G. C. Papageorge. Man 22 years of age. Superficial ulceration of nasal mucosa of one year's duration. Had similar ulcerations of left side of palate which

shows deep scars. Wassermann reaction negative.

5. Case referred by Dr. T. Wild. Woman 36 years old. After a confinement fourteen years ago ulcerations of palate. After a second confinement three years later hoarseness which lasted three years. Soon after, ulcerations appeared on right side of nose. Present condition: fauces filled with scars, uvula and right arcus palatinus destroyed, right nostril obstructed by adhesions of mucosa, left nostril distended, upper lip and lower part of nose covered with nodular and linear scars, and three recent ulcers on nose and upper lip. Pirquet positive. Wassermann reaction negative.

6. Dr. F. E. Buechner's case. Man 25 years of age. Chancre, December, 1912; had mercurial injection for four weeks. May 1913, mucous patches and relapsing papular syphilides. Salvarsan 0.6 intravenously followed by 40 mercurial inunctions. June 30th, Wassermann negative. Recurrence of mucous patches in November. Wassermann, November 30, strongly positive.

7. Dr. F. E. Buechner's case. Man 24 years of age. Infection beginning of this year. Six weeks ago intravenous injection of neosalvarsan and a course of four weeks' inunction treatment. Wassermann reaction negative.

8. Author's case. Man 48 years of age. Primary syphilis followed by secondaries, February, 1898. Patient infected his wife, whose syphilis was very malignant. Both underwent at that time under my care several very vigorous courses of treatment. Since then three healthy children have been born to them. Wassermann (March, 1913) negative in both.

9, 10 and 11. Dr. B. Heym's case. Occipital headaches. Vague nervous symptoms. Suspected osteomyelitis. Wassermann reaction negative.

12. Author's case. Man 32 years of age. Obscure history of infection twelve years ago. Dry, scaly, at times fissured eruption of palm of left hand of six months' duration. Wassermann reaction negative.

13. Author's case. Woman 26 years of age. Pityriasis rosea of six weeks' duration.

Diagnosis of *roseola syphilitica* was made elsewhere. Wassermann reaction negative.

14. Author's case. Woman 61 years of age. Quite deep ulcer on oval form on left tonsil, with considerable infiltration of surrounding tissues, the pillars of soft palate not destroyed but distended and swollen; has developed in the course of five weeks. Wassermann reaction negative.

15. Author's case. Man 23 years of age. Exposure, August 7; patient at first consultation, September 10, showed an indurated small chancre of prepuce with an indolent left-side bubo; other glands not affected. Wassermann reaction negative. Later this patient showed positive Wassermann.

16. Dr. Y.'s case. Child six months old. Tubercular syphilides on face. Ulceration of lips and gums. Ulcerated and nonulcerated gummata of extremities and genitalia. Baby emaciated, in the last stage of marasmus. Has ceased taking nourishment for last three days. A Wassermann was made at a hospital and showed negative. Surgeon diagnosed septicemia. The syphilitic manifestations of this case were clear in spite of the negative Wassermann and I could elicit besides a clear history of a typical series of abortions from the mother.

Deductions from the Preceding Cases

In cases with an obscure history and no definite clinical symptoms a negative Wassermann will quickly clear up the situation and help to pacify the patient and serve to exclude syphilis definitely. (Cases 1-2.)

In cases where the clinical symptoms make the diagnosis between syphilis and other malignant diseases difficult, a negative Wassermann will, by exclusion, make the correct diagnosis possible. Cases 4-5 were shown to be tuberculosis, and Case 14 carcinoma, notwithstanding its rapid development. Case 12 turned out to be eczema.

The Wassermann reaction in nervous diseases (with the exception of paralysis and tabes) is negative in the greater number of cases. (Cases 9-11.)

Syphilis which has been thoroughly and sufficiently treated with mercury can be completely cured. (Case 6.)

A negative Wassermann reaction is of no prognostic value whatever if made only once, soon after the conclusion of a course of treatment. (Cases 6-7.) It is a grave mistake on the part of a physician to have a Wassermann test made after a few weeks of treatment and disappearance of visible symp-

toms, and then be satisfied with this one test and discharge the patient as cured; the reaction may soon turn positive again. (Case 6.) Have a test made at least every two or three months, and resume treatment if it again becomes strongly positive, for in the majority of such cases such a reaction will soon be followed by the reappearance of clinical symptoms, if the patient is not treated.

Salvarsan treatment produces a negative Wassermann reaction in the quickest time. Next to salvarsan, intramuscular injections of gray oil and thorough inunctions of mercury will most quickly change the reaction from positive to negative.

A negative Wassermann reaction in early primary syphilis gives no information regarding the diagnosis. (Case 15.) It usually becomes positive two or three weeks after the appearance of the chancre; but at this stage we have no need of it for its diagnostic value, since the clinical symptoms have usually made their appearance by this time. A negative reaction in primary syphilis is, however, of inestimable value in showing that the disease has not as yet become constitutional and indicating the possibility of attaining an "abortive cure" by immediate salvarsan treatment, thereby preventing the appearance of secondary manifestations.

The negative Wassermann in infants in the stage of marasmus has no diagnostic value, especially in the face of positive manifestations of syphilis. (Case 16.)

Examples of Positive Wassermann Reaction

17. Case referred by Dr. Irving. Woman 28 years old. Psoriasis palmarum of right hand, with typical circinate infiltrated edges. Three years' duration. No history of syphilis, denies ever having had syphilitic manifestations. Wassermann strongly positive. Eight intramuscular gray oil injections and twenty-four inunctions brought about a complete cure of the hand.

18. Dr. J. V. Fowler's case. Man 50 years old. Primary and secondaries fifteen years ago. For last six months dizziness and noise in ears. Slight deafness. Rheumatic; shooting pains. Wassermann reaction positive. On administration of potassium iodide, marked improvement.

19. Dr. D. Meyer's case. Man 26 years old. Florid papulo-pustular syphilides on face and trunk. Moist condylomata. Circinate syphilides on scrotum. Untreated. Wassermann reaction strongly positive.

20. Dr. F. E. Buechner's case. Woman 40 years of age. Nurse. Was troubled with

ulcers of ankle for years. Tuberculosis was diagnosed, and after a long course of unsuccessful treatment the foot was amputated. When patient consulted Dr. Buechner, she showed ulcers of right knee. Patient very anemic. Osteopathic pains in leg. Gastric crises. Wassermann reaction positive. Neosalvarsan 0.2, followed in four days by 0.6. Rapid healing of ulcerations.

21. Case referred by Dr. S. Soboroff. Man 36 years of age. No history of syphilis. Suffered injury to lip eight months ago—wood splinter perforated lip to upper jaw. Abscess and ulcer of upper jaw which did not heal after extraction of front teeth. Resection of triangular piece from upper jaw. Soon after ulcers developed on upper lip and side of nose. Pirquet negative. Wassermann strongly positive. Vigorous inunctions soon produced marked healing.

22. Author's case. Man 23 years of age. Chancre of internal urethra; thin discharge of pus. General adenopathy; maculopapular exanthem. Patient untreated. Wassermann strongly positive.

23. Author's case. Man 29 years of age. Had primary and secondaries eleven years ago. Had at that time a course of twenty intramuscular injections of mercury salicylate and mercury cyanide. Disappeared from my observation after disappearance of symptoms. Claims to have taken protoiodide of mercury internally two years afterwards. No symptoms whatever since. Intends to get married soon, and wants to be examined. Wassermann distinctly positive.

24. Dr. Brinkerhoff's case. Woman 22 years of age. No history of infection. Developed tonsillitis seven months ago. Soon after cervical glands became indurated and painful. Denies having had maculopapular manifestations. Husband well. Gave birth to a healthy child three months ago. Present status: angina ulcerativa. Wassermann strongly positive. Salvarsan. Rapid improvement.

25. Author's case. Man 25 years of age. Exposure eight weeks ago. For last five weeks extreme itching, scabies-like lesions of hands, axillae, pubic region and thighs. Was treated for scabies. No indurated sore on penis, but on pubic region one sore, among other crusty lesions, with marked indurated base. Wassermann strongly positive. Inunction treatment. Two weeks after starting treatment a strong maculopapular exanthem made its appearance.

26. Author's case. Woman 39 years old. Came to me for the treatment of lichen planus

verrucosus. Suffered for two years with attacks of angina pectoris. Examination of the heart showed a systolic murmur of the aorta. Husband suffered long from headaches and was finally confined in an insane asylum, where he died from apoplexy. Distinct syphilitic series of abortions. Wassermann weakly positive. Mercurial inunctions with internal administration of iodides gave considerable relief to heart symptoms.

Deductions From the Preceding Cases

A positive Wassermann reaction renders inestimable service in the differential diagnosis of doubtful cases. (Cases 17, 21).

The Wassermann reaction is always positive when unmistakable clinical symptoms of syphilis are present. (Cases 17, 19, 20, 21, 22, 24, and 25.)

The reaction is always strongly positive in secondary syphilis when untreated. (Cases 19, 20, 21, 22, and 25.)

A gumma always gives a positive reaction. (Case 20 and 21.)

Latent syphilis always gives a weak positive reaction. (Cases 18 and 23.)

The Indefinite Wassermann Reaction

The weak positive reaction in latent syphilis is the stumbling block in Wassermann work. After all, the cases of doubtful diagnosis are not so very frequent. The experienced physician, at least the dermatologist experienced in the interpretation and recognition of cutaneous symptoms, will in the great majority of cases make the diagnosis correctly without the help of the laboratory test. Even in the doubtful cases reported and in which the Wassermann test was decisive, the clinical symptoms were of such a nature that, given the possibility of excluding other diseases with similar manifestations, no doubt was left as to their syphilitic nature. In former times, before we had the quick and convenient method of Wassermann, we knew how to assure ourselves in cases of a doubtful character by resorting to antisyphilitic treatment. If the effect was favorable we made a retrospective diagnosis of syphilis (*ex juvantibus*).

The greatest benefit which we expected to derive from the Wassermann test was in the cases of latent syphilis, in which there are no manifest symptoms, and in which the laboratory alone should show us the safe way to diagnosis and treatment. But, unfortunately, the way is not safe yet. The reaction is always weak on the positive or negative side in latent syphilis. Wassermann himself decries the acceptance of a weak reaction, without clinical evidence, as a basis for diag-

nosis and therapeutic action. Though many leading syphilologists have tried to improve the technic and to refine the reaction in the direction of stronger inhibition of hemolysis in syphilitic sera, we are still left helpless when decisive action or opinion is required, as in Case 23.

That the blood of latent syphilitics, containing fewer antibodies, must give a weaker deviation of the complement follows from the nature of the reaction. To put the matter in the words of Kromayer (*Medizin. Klinik.*, No. 10, 1912), we encounter in the four ingredients (amboceptor, complement, antigen and serum) which are concerned in the hemolysis of the sheep blood corpuscles, two antagonistic principles; the first two ingredients inducing, the last two inhibiting hemolysis. The struggle between these two antagonistic principles goes on in the test-tube, and, as in many a struggle, the victory belongs to the stronger.

There is no doubt as to the outcome of the reaction if the strength of one or the other principle is overwhelming, as in the presence of an excess of antibodies in untreated secondary syphilis, which will bind even the strongest complement. But the outcome will be indefinite if the forces are almost equal. In such a case if we employ a little more complement we secure from a weakly positive serum a negative reaction, because only a part of the complement will be fixed, and the balance will go to produce hemolysis. In like manner we may convert a positive serum into a negative reaction if we take an insufficient amount of serum which will not be able to bind all the complement.

Kromayer's refined method, which I am using with benefit, consists in the following:

Technic When the Reaction Is Weak

Make the test according to the original method of Wassermann. If the reaction is weakly positive, make another test with less complement; then use instead of one Cc. of a 10-percent solution of complement, 0.8, 0.6, 0.5 Cc. of the solution in three additional test-tubes and see if the reaction does not become stronger on the positive side. In like manner, if the original Wassermann gives a negative reaction, while there is strong suspicion of the case being one of syphilis, make another test with larger amounts of serum. Instead of 0.2 Cc., use three more test-tubes with 0.4, 0.8 and 1.0 Cc. of serum and see if you get an increase of inhibition. This is illustrated by the following case:

28. Case referred by Dr. B. Meyer. Woman 34 years old. Married eight years.

Not aware of ever having had primary or secondary symptoms. Husband admits having had syphilis before marriage. For last two years, left hand scaly. Distinct psoriasis palmarum syphilitica, associated with a few scattered syphilitic-looking papules on wrist and back of hand. She had a Wassermann made in a laboratory a few weeks ago and it was negative. As the clinical appearance resembled syphilis, I made a Wassermann with the Kromayer modification. The original Wassermann gave a weak positive reaction; the Kromayer modification brought out a strong positive reaction.

However, with all this excessive care, and with all the self imposed larger amount of work, we get but meager practical results in the application of the test to cases of latent syphilis, as illustrated by the following case:

29. Author's case. Man 26 years of age. Contracted syphilis in May, 1909. Had no treatment. Married in June, 1911. In December, 1911, they came to me, the husband with palmar syphilis, his wife with florid secondaries and syphilitic angina. Wassermann in both strongly positive. During the year 1912 both had three courses of vigorous injection and inunction treatment. In February, 1913, the Wassermann of the wife was negative, while that of the husband was distinctly but not strongly positive. He got three neosalvarsan injections intravenously of 0.6, 0.6, 0.9 Grams, and one salvarsan, 0.6, in March and April, with intervals of three weeks. Each time after an injection his Wassermann was negative. After a lapse of three months, in August, his Wassermann was again definitely but not strongly positive.

Comment on the Weak Wassermann Reaction

The weakly positive Wassermann is of value only in the control of recent cases of syphilis as a guide in the treatment. It has no prognostic value in latent syphilis of later periods, and it cannot serve as a guide in the decision of the question of marriage in these late cases.

I believe that the words of Wassermann, expressed at the last International Medical Congress, in London, are of great significance. "*The fate of every syphilitic is decided in the first two or three years of the disease, when every case can and ought to be cured; what is not gained in this time will never be gained any more.*"

Conclusions

The Wassermann test is only a part in the diagnostic chain of symptoms of syphilis. It has a value only in conjunction with the other

symptoms of the disease. *It is corroborative evidence.* It can never serve as a safe basis for diagnosis when not supported by clinical evidence of syphilis or when contradicting clinical symptoms. Without the knowledge of recognition and interpretation of clinical symptoms the physician will often be confused and misled by the Wassermann test. Whatever value we shall give to the Wasser-

mann test, it must be performed by reliable and most approved methods. The most reliable method, as agreed by most clinicians and serologists, is the original Wassermann. Modifications, when used, must complicate and increase the labor of the test, not shorten it. Short cuts and snapshots have no place in this work.

32 North State St.

Venereal and Sexual Diseases

A Talk About Treatment

By WILLIAM J. ROBINSON, M. D., New York City

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TO ATTEND the meetings of some of our advanced or special medical societies and to listen to the papers and discussions, one would think that drugs are no longer used in medicine, that materia medica and pharmacology are discarded sciences, and that the Pharmacopeia and the Dispensary have been, or if not, should be, burned and their ashes scattered to the four winds. For, in the discussion of treatment, you very seldom hear the name of a drug referred to, and that only incidentally. Surgical treatment holds the center of the stage. After that comes electricity, with the high-frequency current, fulguration, and so on; then come the Roentgen rays, and radium (which, though a material substance, is not classed among drugs, for it owes its virtues to immaterial emanations); then various mechanical appliances, and, if more material things are referred to, they generally are the sera, vaccines, and bacterins.

Now, it should be utterly and entirely unnecessary for me to state that I am not in the very least opposed to any of the above agents in the treatment of disease. Opposition to them would be absurd and stupid. I use every one of the nonmedicinal methods and agencies in my speciality—the treatment of sexual and venereal diseases. I simply object to their monopolizing the stage to the exclusion of drugs, which I consider indispensable adjuvants in the treatment of almost any disease. If I saw drugs being used in the treatment of disease to the exclusion of other methods, I should be just as displeased; and I should then speak and write in favor of nonmedicinal therapeutics.

The true reformer not only starts the pendulum swinging in the right direction, but,

when he sees that it has swung too far, he swings it in the other direction, so that a proper balance may finally be established.

In this paper I shall refer principally to the medicinal versus the nonmedicinal treatment of sexual and venereal diseases.

More than once I have had occasion to tell my fellow urologists that, if they were a little more familiar with the action of drugs, if they did not consider it beneath their dignity to devote some time to the investigation of the action not only of new but of some old remedies, their patients often would escape surgical operations and mechanical manipulations, and would be so much better off.

Calcium Sulphide Versus Biologic Therapy

Recently I attended a meeting of one of our most prominent medical societies. Among the papers read was one on the treatment of gonorrheal arthritis with gonococcus vaccines. The speaker reported three cases. Of these, two were stated to be cured, and one "practically" cured.

Now, it so happened that of the two reported as cured, one afterward applied to me for treatment; for he had remained well for about three weeks, then his wrist began to pain and swell again, and, as he did not want a repetition of the painful injections, he did not go back to his former doctor. And when he applied to me for treatment, the first thing he asked was whether I would use gonococcus injections on him. I did not use any gonococci on him, but treated him with calcium sulphide and arsenic iodide internally, and collargol ointment externally; and his wrist got perfectly well and has remained well for more than seven months. And the getting well of his wrist was to that young man a

matter of life and death, as he was making a living by playing the piano.

The other two of the speaker's cases were those of women. As one of these women was only "practically well" (and "practically" well some cases of gonorrheal arthritis sometimes get under any treatment), we will leave it out of consideration. The other patient reported as cured had received billions and billions of gonococci through a period of more than five months. The "practically cured" patient received fifteen injections of fifty to five hundred millions each. By the way, how some doctors do enjoy rolling these big figures between their teeth: 50,000,000, 100,000,000, 500,000,000—it sounds so big, and looks so impressive on paper.

Although I believe that the sera and bacterins may be employed in some rebellious cases and though I hated to adopt an antagonistic attitude, I could not help getting up and saying that I should feel ashamed if I could show no better results in gonorrheal arthritis, obstinate as that affection is, and that I should hesitate to come before a medical society with such a report. And then I spoke of the results which we obtain by saturating the patient with calcium sulphide and arsenic iodide, and by the external use of guaiacol, methyl salicylate, unguentum Cr  d  , and so on. And, of course, as I expected, there was hardly anybody in the audience who had ever heard of the use of calcium sulphide and arsenic iodide in gonorrheal arthritis.

Yes, at the end of the meeting I discovered two doctors who had heard of them.

Doubtful Value of Modern Inventions

We are justly proud of our new diagnostic urologic instruments. By the aid of the endoscope, cystoscope, cystourethroscope, urine-segregator, ureteral catheters, and so on, we can now diagnose with certainty conditions which we could only guess at before. But has our treatment made such very wonderful progress? A few men are doing good work; but, for instance, has even the treatment of gonorrhea, as practiced by the vast majority of the profession (and here I mean not only the general practitioner but the specialist as well), undergone such wonderful changes? I fear we must answer this question in the negative.

And, what's more, I fear—nay, I know—that our wonderful diagnostic instrumentarium is responsible for many, for very many, mishaps and complications. Of the last seven cases of epididymitis that I have

treated, three were induced by examination and treatment. Two followed the mere examination with the urethroscope, and one followed a forcible injection of argyrol. And I am sure that many extensions of gonorrheal inflammation from the anterior to the posterior urethra are caused by our various diagnostic instruments, which our young specialists are so fond of displaying.

And I think it is unfair, very unfair, to push instruments into a urethra when there is no real indication for them, and when it is done, as it often is, merely for the purpose of impressing the patient.

There is no need of "impressing" a gonorrheal patient. In treating hysteria, neurasthenia, and various other nervous and psychic conditions, we may need the aid of suggestion, but the gonococcus is absolutely unamenable to suggestion, and only laughs at beautifully furnished offices, enameled surgical chairs, large irrigators, and the latest models of urethroscopes.

If I have obtained some reputation for success in the treatment of venereal and sexual diseases, it is owing to two causes: first, I have respect for the male urethra, have learned that it was not made to be poked with instruments except for very good reasons; and, second, I have respect for drugs.

What Rational Medication and Management Will Do

Perhaps the latter is due to the fact that before devoting myself to urology I was an ardent student of pharmacology; but the fact is that the waves of therapeutic nihilism have passed over me without any effect, and I am as strong a believer in the virtue of properly prepared and properly administered drugs as I ever have been. And I believe that by the proper combination of drugs we can produce such a demulcent and antiseptic, and even solvent, effect upon the urine and the renal and vesical mucosa as to render operative interference in numerous cases unnecessary.

Unpleasant as it is to say it, the truth must be stated, namely, that a good part of one physician's practice—at least of the writer's practice—is owing to the meddlingness of the other physician. The meddling is done in good faith; the doctor means to do his best, he wants to hurry matters and make the patient well as quickly as possible; but the results often are disastrous. And by merely stopping all injections, the use of all sounds and dilators, all

examination and instrumentation; and, rather, by ordering simple demulcents such as flaxseed-tea and infusion of triticum; by administering mild antiseptics like arbutin, sodium benzoate, small doses of hexamethylenamine tetramine (urotropin) or the balsamics, the best of which still remains oil of santal and its various chemical combinations, for example gonosan (santyl, lacto-santal, thyresol); by giving an occasional sedative rectal suppository or advising a sitzbath; by such means we often obtain results that are highly gratifying to the patient and at the same time increase our reputation enormously, when, as a matter of fact, most of our treatment has been more of a negative than of a positive character. To correct the effects of somebody's overzealousness, is not such a difficult matter.

There is one urologic procedure which I would condemn most emphatically when it is not employed for very good reasons and by skilful and practiced hands. I refer to ureteral catheterization. It is not three hours since I discharged as cured a patient who came to me five weeks ago in a very deplorable condition. According to his statement, he had had some pus in the urine for several days, and the day before calling on me he had applied to a specialist, who had catheterized his ureters for diagnostic purposes. The result was, severe cramps, hemorrhage, and, later, a chill.

When this man came to me the hematuria was very distinct. Rest in bed for a few days, together with a course of arbutin and, later, small doses of urotropin, brought about an amelioration of the symptoms, and now his urine does not contain a particle of pus. It is not necessary to attempt to be ultrafine in diagnosis, unless our ordinary methods of treatment prove unavailing.

What the Inventor of the Cystoscope Said

I wish to report something which I do not remember reporting before, but which is very significant, and which, moreover, coming from the source it does, deserves pondering.

The late Prof. Max Nitze, the inventor of the cystoscope, has done more for cystoscopy and ureteral catheterization than any other urologist, living or dead. He not only was a great physician, he also was a good man. Though Nothnagel says that only a good man can be a good physician, still, there are some great physicians who are not such very good men. But, as said, Nitze was both. He was very conscientious in the treatment of his patients and he felt keenly the damage

done to other patients by his instruments in the hands of overzealous practitioners. And this is what I heard him say in the presence of several physicians, at his office one evening—to be exact, on March 18, 1905:

"When I see what is being done to some patients, I am forced to the conclusion that it would have been better for humanity if ureteral catheterization had never been invented."

While the instrumentarium for ureteral catheterization has undergone some improvement during the last five years, and while those who practice it have, in general, attained a higher degree of efficiency and manipulative skill than was the case several years ago; still, I pity the patient whose ureters are invaded without very definite reasons, very positive indications, and I repeat that Nitze's words are worth pondering over deeply. And I will say, risking repetition (it is only by frequent reiteration that we can impress a truth), that, *ceteris paribus*, those who use the fewest instruments and the mildest measures, and are on good terms with the materia medica, will obtain the best results in treating the diseases caused by the gonococcus.

Useful But Little-Used Drugs for Syphilis

While in syphilis three drugs stand out prominently and are practically indispensable; still, I assert that the physician who is thoroughly familiar with the action of other drugs besides mercury, salvarsan, and potassium iodide, and who uses a number of them according to indications, either as adjuvants or as substitutes in the intervals, will attain far better results than those physicians or even specialists who believe that mercury, salvarsan, and iodine are the alpha and omega of antiluetic treatment.

And I venture to maintain that even in spite of the wonderful reports of success with salvarsan (dampened here and there by the report of a neural complication, a recurrence, or a fatality) other drugs will not become entirely superfluous in the treatment of the syphilitic scourge. General eliminatives, diuretics, and diaphoretics (don't forget small doses of pilocarpine), and tonics, and sanguifacients (chalybeates) will, still, be required, and still an occasional use will be found even for the old and hoary Zittmann's decoction.

If this is heresy or old-fogyism, make the most of it.

What is true of venereal diseases is applicable to sexual disorders.

In the treatment of sexual disorders, our

main reliance, outside of drugs has been upon electricity. But I regret to say that, not taking into consideration the element of suggestion (and suggestion will not carry the patient very far, except in cases of undoubted psychic impotence—the frequency of which is greatly exaggerated), the results from electricity have never been very brilliant, and certainly not superior to those obtained from proper medicinal treatment.

If it comes to comparisons, I should say that hydrotherapy in its various forms is decidedly superior to electricity. But, whichever of the nonmedicinal agencies be given the palm of precedence, drugs always form a very useful, and at times an indispensable, adjunct, and they can be discarded only at the expense of the patient.

In short, in the treatment of human ailments and diseases, drugs play, and probably always will play, an important role. In some diseases, they are of paramount importance and occupy the very first place; to attempt to treat the patient without them would be

criminal. In other diseases, while not indispensable, they are useful adjuncts; to attempt to do without them would be foolish.

Surgery, diet, exercise, hydrotherapy, mineral waters, direct sunlight, heat, massage, electricity, the x-rays, the Finsen light, radium, the various biologic products, psychotherapy, hypnotism, all these are important agencies in the treatment of disease; in many cases they are indispensable; in many cases any one of those agencies will alone accomplish the cure.

But *materia medica*—*materia medica* in the oldtime sense, comprising drugs of vegetable, mineral, and animal origin—is second to none of them. And, taking into consideration the vast number of diseases in which drugs are useful, their universality, simplicity, and ease of employment, they are superior to any of them, with the exception perhaps of surgery.

We are not yet ready to throw our *materia medica* overboard.

12 Mt. Morris Park W.

Lie Down and Die!

A Study of Posture and Prognosis

By DOUGLAS H. STEWART, M. D., New York City

PERHAPS, since one often reads the expression, "This is one of the penalties that man pays for the upright position," the profession at large may have come to the opinion that the recumbent posture is safe. Yet, the penalty for lying supine may be death—a fact which everybody knows in theory and too often neglects in practice.

Died Because Kept on His Back

It is necessary for me to paint with a broad brush, to leave exceptions unnoticed, and to begin with the basic fact that many a man has died because he was kept on his back.

As the present mortality of the conditions to be described is over 70 percent, I shall have accomplished my purpose, if this article finds one attentive reader who is engaged in active practice.

Matters should be viewed from a bedside standpoint. Quick relief is urgent in its demands, pathology and postmortem diagnosis may well be neglected. Causes may be searched for after recovery. A good understanding of the mechanical principles involved, is worth much more to effective treatment than the information acquired by

a life-long study of the chemistry of the ptomaines.

And the man who does understand mechanics will find fewer cases to group under the diagnostic terms of acute indigestion, gastric dilatation, ptomaine poisoning and so on; for he will know that lying upon the back is a constant factor in all of them, and either is, or soon becomes, accompanied by unattainable peristalsis; the combination reveals, at autopsy, either a kind of flattened, angleworm thing slid into the pelvis and hardly recognizable as intestine; or a dilated, bleached, impotent ileum.

It is quite impossible to describe the many forces and influences at work when a man is lying on his back.

The two fundamentals are, the patient is lying on his back, and the stomach is distended. Roll the man over on his stomach (prone) and then plan your treatment. Otherwise you are an inefficient workman.

A "Scheme" Which Explains the Trouble

The mechanical lesson may be learned by a scheme. Use a soft-rubber hose, run water

through it, put your foot on it, to represent the mesenteric strap. The part above the foot will expand; below, it will contract. Now, if someone pulls on the contracted portion, that will stretch and become still smaller. This happens when the man lies on his back.

The intestines slide into the pelvis, lengthen, make their caliber smaller, and, in addition, throw their whole weight on the mesenteric strap, thereby tightening the strap and choking the duodenum more than ever.

Roll the man into the prone position, and, if you have great good fortune, the intestines will fall out of the pelvis into the abdomen, and the condition will be relieved. If not, wash out the stomach and clear it of its toxins before they kill. Do not make the error of considering that the severe cases are only seen postoperatively; they are only too common in hospitals. So is the prolonged supine position of the patient.

Most of my troubles have been postoperative, it is true, but one nonoperative fatal case was caused by a gonorrheal inflammation in the pelvis. Another was a nonoperative case, where the stomach distended, tore off a large artery, and death was practically instantaneous from hemorrhage. No blood in the stomach or bowel. The condition is often owing to lack of exercise of the abdominal muscles (desk-work atrophy of the abdominal wall), but it is not due to either heart failure or acute indigestion, tho both may be present.

The hospital men are well acquainted with this condition, that is all. Especially is it well known where the attendants are particularly gentle. One man, a competent operator, used to be very careful to slide the patient very gradually from the operating-table to a wheeled pony-carrier. Oh, well, he had gastric-dilatation cases all the time, while a colleague, perhaps no more able, used to grasp his patients, bend them double, and shake things into place. The results were just what might have been anticipated. One maintained the supine position carefully, the other did not. The latter may have had postoperative dilatation complications, but,

if so, they were rare. I do not recall his having had any.

Sometimes the intestine just simply quits. In this condition it dilates, does not slide into the pelvis; inhibition, outlasting contraction, as usual, produces the paralytic ileus, but its firm contraction, which once held open the segment beneath the mesenteric strap, collapses like a wet towel. In all cases of stomach dilatation—never mind causes, which may be overeating or starvation, fatigue or lack of exercise, operation or the need of operation, ptomaines of bad food poisoning should have sickened other partakers. But, get the man prone, wash out his stomach (with normal salt solution), give an alum enema in the bowel. Control vomiting, and get a vermicular contraction in the intestine with a hypodermic injection of physostigmine salicylate, 1-50 grain hourly; three doses if necessary. One-half hour later, in case of failure to get relief, give arecoline hydrobromide, 1-10 grain. Do not forget that pituitary extract in three times the obstetric dose is very effective. Use that one-half hour after the arecoline, if no flatus passes by that time.

As a last resort, induce spinal anesthesia by lumbar puncture. (See Lanphear, "Surgical Therapeutics," page 63.) Spinal anesthesia will block the splanchnic nerves and produce a free bowel movement within an hour. If it should not do so, you are dealing with a heavy sphincter ani, the result of old previous inflammation. Dilate that. The spinal anesthesia makes dilatation easy.

There Are Two Don'ts

1. Don't give a cathartic by mouth in this instance. It cannot work, but can do damage to the collapsed or overstretched intestine. Get your peristaltic wave started first; if you do not, epsom salt, for instance, either will be vomited or cause sudden death.

2. Don't give morphine. You might as well hit your man across the abdomen with a club. There is small difference between palsy from shock or from a splint.

Upon and after recovery, put an abdominal supporter on the patient. See that he wears it.



Making Good in Medical Emergencies

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE.—In succeeding issues of this journal Dr. Candler will continue the discussion of the medical emergencies, while Dr. Perry, whose paper follows this, will consider the surgical emergencies. These articles will be found both interesting and helpful.

THE physician who may be called upon at any time to meet medical as well as surgical exigencies should equip himself with certain essentials. The various so-called emergency-bags meet many requirements, but some of the most critical positions the doctor is compelled to occupy present themselves suddenly—often when he is on his daily round or far from any source of supplies.

The country practitioner, especially, is apt to have to cope with grave dangers at a moment's notice, and victory will depend not only upon his knowing what to do or to leave undone, but also in having, or being able to originate, the things necessary to work with. For instance, someone swallows by mistake a few drams of one of the mineral acids—hydrochloric (fatal dose 4 drams), sulphuric (fatal dose 1 dram), or nitric acid (fatal dose 1 1-2 drams). The doctor visiting nearby reaches the patient within ten minutes. The poison is identified and the physiological antidotes are remembered. *But*, the morphine and strychnine are in his hypodermatic case, and the case is on the office-table a mile or two away!

The man who can meet emergencies—even when through his own shortsightedness he helps create them—goes to work and pours soap-suds into the patients' stomach, together with lime from the wall, the white of raw eggs, and baking-soda, thus neutralizing the poison. Camphor usually is obtainable and makes a good, rapidly acting stimulant, and, by the time the chemical antidotes have been given and hot fomentations applied to the abdomen, it is likely the lacking morphine and strychnine will have been secured.

To have failed to do instantly what *could* be done, because the so-called physiological antidotes were not at hand, or to omit sending for the requisite drugs if it were at all possible to obtain them, would be to fail in a dire emergency. If, moreover, that physician ever stirred from his office again without a hypodermatic syringe and a proper selection of emergency-remedies in his pocket, he failed to learn from experience; which, after all, is the most impressive teacher.

It is just as well, however, to realize that the right thing to do in any emergency you

may encounter has been discovered and done by others, and you should profit by their experience, instead of waiting to find out things for yourself at the expense of your patients.

I once knew an old doctor who believed very firmly in the efficacy of the stomach-pump, and always carried it with him. By its prompt and vigorous use he had saved several individuals who had taken poison. But one day, when called to attend a woman who had swallowed sulphuric acid (oil of vitriol people still call it), he inserted the stomach-tube, and was very much surprised—and mortified—to find that the soap and water he poured in was filling up the abdominal cavity. Of course, the woman died, and the doctor learned by personal experience—that the use of the stomach-tube is distinctly dangerous when strong corrosive acids have been ingested.

Every physician, of course, is supposed to be familiar with this and similar basal facts; but, unfortunately, the human brain will not retain everything, and in the effort to assimilate a thousand and one impracticable things the doctor lets go of many essentials. Not very long ago a doctor who has been in active practice for fifteen years lost the only child in a family, because he did not recall that marking-ink really is nitrate of silver and the best antidote therefor is common salt; which, of course, was readily available.

It is out of the question to have on one's person or even immediately available *all* the remedial agents which might be required in any medical emergency; still, one can always be prepared to relieve pain, to induce prompt emesis, diuresis, diaphoresis, catharsis, somnolency or narcosis, to stimulate or sedate cardiac action or reestablish failing respiration. It is equally easy to provide the means with which to control spasm, hemorrhage, and hyperpyrexia. As a matter of fact, in most emergencies we shall have to do one or more of these things.

The really essential remedial agents are few and may be enumerated as follows:

(1) A hypodermic syringe in perfect order, together with (2) a supply of hypodermic tablets of H-M-C, atropine, apomorphine,

cocaine, morphine, lobeline sulphate, pilocarpine, strychnine, digitalin, cactoid, gelseminine hydrobromide, glonoin, hyoscyne hydrobromide, sparteine, and veratrine. Any necessary combinations can readily be made as need arises. (3) A few perles of amyl nitrite, ampules of adrenalin-chloride solution, ergot, camphorated oil, ammonia, and nuclein. (4) Chloroform, 2 ounces. The foregoing, together with (5) a well-fitted pocket instrument-case, and (6) a flat case holding from 12 to 26 vials of active-principle granules, can readily be carried in the coat-pockets.

The larger case of granules might contain aconitine hydrobromide, gr. 1-800; aloin, gr. 1-12; anodyne for infants (Vaugh); apomorphine hydrochloride, gr. 1-64; arbutin, gr. 1-6; arsenous acid, gr. 1-64; atropine sulphate, gr. 1-250; brucine hydrochloride, gr. 1-128; calcium sulphide, gr. 1-6; calomel, gr. 1-6; monobromated camphor, gr. 1-6; codeine sulphate, gr. 1-64; colchicine, gr. 1-128; copper arsenite, gr. 1-1000; digitalin, gr. 1-64; emetoid, gr. 1-64; glonoin, gr. 1-250; hyoscyamine sulphate, gr. 1-1000; morphine sulphate, gr. 1-12; podophyllin, gr. 1-6; quassoid, gr. 1-64; quinine arsenate, gr. 1-64; strychnine arsenate, gr. 1-128; veratrine hydrochloride, gr. 1-128.

The assortment for the smaller case might be: aconitine hydrobromide, gr. 1-800; anodyne for infants (Vaugh); atropine sulphate, gr. 1-250; calcium sulphide, gr. 1-6; calomel, gr. 1-6; codeine sulphate, gr. 1-64; digitalin, gr. 1-64; glonoin, gr. 1-250; hyoscyamine sulphate, gr. 1-1000; podophyllin, gr. 1-6; strychnine arsenate, gr. 1-128; veratrine hydrochloride, gr. 1-128.

What the Special Emergency Satchel Should Contain

Thus supplied, the practitioner can feel assured that he is able to cope effectually with practically any emergency confronting him in general practice. It is as well, of course, to have a special satchel fitted out with ordinary first dressings, antidotes for the more common poisons, an intubation outfit, catheters (in sterile container), colon-tube, stomach-tube, speculums (aural, nasal, vaginal, rectal), a tube of ethyl chloride, transfusion-apparatus, and a supply of antiseptics. If the emergency occur when the doctor is near the office or making the rounds in his vehicle, the whole outfit is available in a moment, and its possession may mean a very great deal to him.

As for myself, I carry in my satchel a

poison chart and the "Pocket Gray," for I must confess that I cannot remember *all* the antidotes or recall the minute regional anatomy of every part of the body. If I find myself in doubt, I first do all I possibly can think of, and then "look in the book and see" what more may be tried under the circumstances.

Some men may consider reference to a manual at such a time "unwise"—even derogatory—but I find that facts that are impressed upon one's mind under stress have a habit of sticking. And, anyway, the essential thing is to "meet the emergency," and you cannot convince yourself (or others) that you have done your full duty if you find out an hour or two after the patient is dead that, maybe, some simple (but omitted) procedure would have saved his life.

I once had to do a tracheotomy in a tenement at 2 o'clock in the night with a pen-knife and keep the wound open with two bent hairpins and a rubber band. The only light available was a smoking oil-lamp in the hand of a palsied grandma. I cannot say I enjoyed the proceeding—but I saved the child. Moreover, the very next day I procured an intubation outfit—and learned how to use it. And, by the way, it might be well for every physician possessing the instrument to satisfy himself that he actually can introduce the tube "in an emergency," and remove it later. After one has vainly tried a dozen times to insert the tracheal tube and the parents and nurse show unmistakable signs of hysteria, it is distinctly humiliating to have to send for another doctor and see him slip the appliance into place in ten seconds. That kind of "emergency" can—and should be—carefully avoided by diligent prior study and preparation.

Loss of Consciousness—What It Means •

The unconscious patient is a particularly trying one. In the first place, the cause must be ascertained and, as the individual himself can give no help and the relatives or bystanders are usually too excited or frightened to extend rational information, the physician is thrown entirely upon his own resources.

More or less profound unconsciousness is present in asphyxia (suffocation or from inhalation of gas), apoplexy, epilepsy, electric shock, coma, convulsions (in children), collapse (simple nervous or "shock"), hysteria, drowning, trauma of head or spine (concussion), sunstroke or heat-stroke, and syncope.

Though the terms coma and syncope frequently are used almost synonymously to

describe a condition of insensibility, there is a material difference in these two states.

The *comatose* individual lies prone and is either entirely unresponsive to external stimuli or he moves restlessly and moans or mutters in delirium. Occasionally a certain degree of perception does exist. The pulse generally is full, the face flushed and the pupils (except in opium poisoning) are dilated. The respiration may be stertorous.

In *syncope*, on the other hand, we have to deal with cardiac inactivity. Loss of consciousness may be brief, recurrent or prolonged. The patient may fall suddenly as though pole-axed, sink gradually down or seek a place to sit or recline. The face is pale, the skin cool, the radial pulse thready or even absent, and the heart-beat faint; respiration is sighing and shallow. There is, unfortunately, no material difference in the clinical pictures of an ordinary "faint" and of the *ante-mortem* syncope of a serious cardiac lesion.

In every instance, the physician first upon the scene must endeavor to familiarize himself rapidly with the exact conditions present. If he knows the patient to be a victim of chronic renal disease, diabetes or cerebral tumor, the cause of the comatose condition will be fairly obvious. If, however, the patient be an epileptic or an alcoholic, his insensibility may be due to cerebral injury incurred through falling.

Serious Mistakes Made When Alcohol is a Factor

A diagnosis of "alcoholic coma" should be made only after a most thorough examination and absolute exclusion of any gross lesion. Police surgeons, grown careless from constant contact with "drunks," have time and again sent individuals, picked up on the streets unconscious, to the cells as "insensible from drink," when as a matter of fact they suffered from fracture of the skull or uremic coma. Death has resulted from such erroneous diagnosis altogether too frequently. It should be remembered, in this connection, that when anyone falls unconscious in a public place the most readily procured alcoholic stimulant nearly always is administered by someone; hence, the mere fact that the breath "smells of liquor" means little or nothing.

While examining the patient, the friends or bystanders should be questioned as to the conditions that obtained at the time of the attack. Diabetic coma comes on gradually; a cerebral hemorrhage, or apoplexy, usually causes sudden unconsciousness. The epileptic will have "had a fit," the alcoholic has

shown some sign of being "drunk and incapable." Not infrequently the stains upon the front of the trousers in a male and the peculiar odor of acetone in the breath will reveal the existence of diabetes.

The fat, short, fullblooded individual breathing stertorously and presenting a suffused face and a hard, rapid pulse probably is a victim of cerebral hemorrhage. Unwise consumption of alcohol may, of course, have precipitated the accident. The comatose, thin, anemic patient is more likely to be a nephritic or diabetic. If there is froth about the mouth or the tongue has been bitten, it is fairly safe to regard the patient as epileptic. The small pulse, cold extremities, pinpoint pupils, and infrequent faint or "puffing" respiration of the victim of opium poisoning are readily recognizable. A distinct "squint" bespeaks intracranial trouble; inequality of the pupils, a lesion of one hemisphere; equal enlargement (the condition usually observed in deep comas), general cerebral compression. In uremia and epilepsy, both pupils are widely dilated.

The pulse of cerebral hemorrhage is full, hard, and slow; in apoplexy, (thrombotic), it is much feeble; the heart sounds, moreover, are faint. In renal disease, high tension obtains. In Stokes-Adams disease, that is, cardiac inadequacy (a very frequent cause of sudden death), the pulse rate may not exceed twenty. Individuals suffering from this form of myocardial degeneration may complain of dyspnea and vertigo, and suddenly become unconscious. Not infrequently they present more or less edema or ascites. As has been stated, the pulse of a person who has "fainted" is always feeble and sometimes absent.

The temperature of most comatose individuals is subnormal. In heat-stroke and pontine hemorrhage, it is, however, high.

If the patient has swallowed certain poisons, the mouth and lips will prove informative. The odor of the drug may also be apparent. Phenol, the mineral acids, caustic alkalis, and ammonia will whiten or destroy the mucosa. If the lips are a bright-red, carbon-monoxide poisoning must be thought of. An individual found unconscious in a stove- or furnace-heated apartment and presenting the symptoms of narcotic poisoning may have inhaled coal-gas (carbureted hydrogen).

The treatment of the various conditions producing coma or syncope will be considered in the next paper.

(To be continued)

Making Good in Surgical Emergencies

Or Emergency Surgery in the Country

By RALPH St. J. PERRY, M. D., Farmington, Minnesota

EDITORIAL NOTE.—This article is a "companion" for Dr. Candler's article on "Making Good in Medical Emergencies," which precedes this. It will be followed by others on the same general topic.

IN DIFFERENTIATING the city from the country it becomes convenient to fall back upon the classification of the United States Census Bureau, which draws the line at 2500 population. Any corporation or community having within its limits less than that many people is hereafter to be adjudged a village, hamlet, settlement, cross-roads, or just "country." And any physician living and practicing within such a domain is a country doctor.

Of the country practitioner it is expected by his patrons that he should be greased lightning on matters of diagnosis and infallible in the treatment of surgical emergencies; and to the credit of these same country practitioners let it be said that almost invariably they deliver the goods

to attend victims of wrecks or industrial accidents, or to adjust accident claims, and very rarely was it found that the country doctor who first attended the injured persons had done other than the proper thing.

My country friends should never lose sight of the fact that many of the epoch-making discoveries and innovations in surgical art, the startling and daring new operations, can be attributed to country doctors or to those who laid the foundations for their success in regions remote from the surgical centres. Notwithstanding the disparagement and disapproval of a few of the holier-than-thou surgeons, who endeavor by means of a self-raising pragmatic afflatus to elevate themselves upon a pinnacle where they become the cynosure of the public gaze, and who think that no one outside of their select chirurgic circle should do any surgery, the country doctor will continue to surge p. r. n.

Country Surgery Is Not Easy Surgery

Most denizens of the city, in their circumscribed vista, look upon country life as a calm and peaceful affair, as one long, continuous sleep, devoid of incident or accident. But those who have to deal with country life in a cold-blooded, business-like way have discovered that the man who lives and works in the rural districts is more exposed to danger

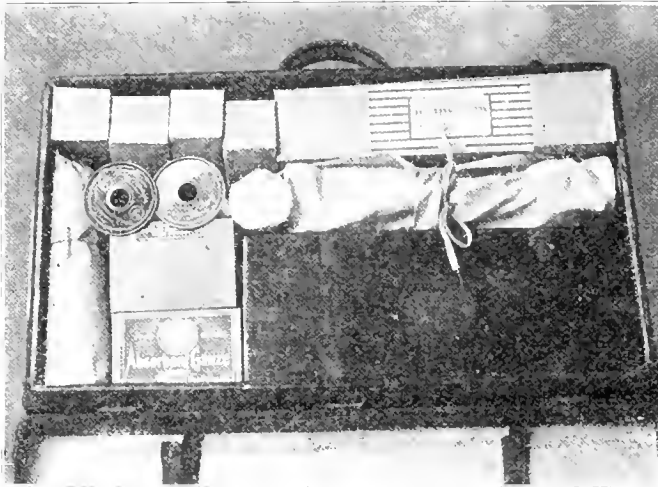


Fig. 1. The Major Operating Bag

when occasion demands. In more than thirty years of observation I do not recall one case where the country doctor fell down seriously or showed the white feather.

Years ago I was concurrently assistant chief surgeon for a large railroad system, chief surgeon for a large industrial corporation and special examiner for one of the principal accident insurance companies; during which time I was frequently called upon

than his city brother. Accident insurance companies rate farmers and farm hands as hazardous risks—put them in a class with machinists, buzz-sawyers, steam-shovel men, cornice workers, quarry drillers, telephone and telegraph linemen, and such workmen whom we generally look upon as engaged in dangerous occupations. Insurance authorities even regard railroad work as less dangerous than farming. So you can

see the prospects for emergency surgery are very good in the country and it behooves the country surgeon to be prepared for instantaneous action.

By being prepared I mean you should be stocked up with bandages, splints or splint materials, sutures, ligatures, and the various other supplies needed in repairing damaged humanity. Your instruments should be kept in good order, and, with your supplies, should *always* be kept where you can find them—even in the dark. Adopt a good system of arrangement or storage and never change the essential features thereof. The best way to do this is to have several satchels or bags in which your necessary paraphernalia is carefully and securely packed. In my own equipment for years I had four such bags, one each for major operations, minor operations, fractures and dislocations, and obstetrical cases. Also a Buchanan folding operating table and a strong canvas cot.

The Surgeon's Bag—Fixed to Suit Individual Needs

Of these bags there are many sizes and styles put out by various manufacturers, but for my own use I prefer a suit case, or an old fashioned Gladstone bag, with its internal economy subdivided and arranged to suit my personal ideas. (Fig. 1.) Arrange the contents of your bag to suit yourself, put in pasteboard partitions, making a separate compartment or box for each article or group of articles, and this arrangement of partitions, when once you have got it just as desired, can be put into substantial metal form by any tinsmith.

A suit case or Gladstone bag enables you

to pack a lot of stuff without piling things on top of each other, and the use of partitions not only provides a separate receptacle and place for each object, but allows you to remove any part of your outfit without disturbing the remainder. The major operating bag should contain:

General operating case; Parker's (Fig. 2), or United States Army (Fig. 3).

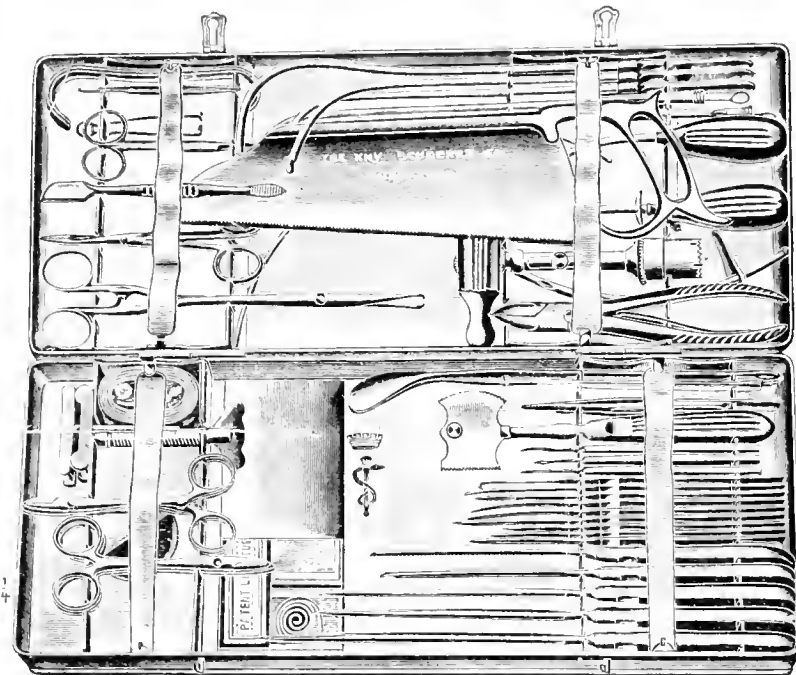


Fig. 2. Parker's Operating Set

Canvas roll containing hemostats, scissors, forceps of various kinds, needle holder, and other needed instruments not found in the general case, the selection of which will vary with your individual likes and technic. (Fig. 4.)

Sterilized ligatures, sutures, drainage tubes, and other similar things, in containers.

Bundle of necessary sterile dressings for amputation of thigh or arm, with gauze retractor, sponges, and other essentials.

Bundle of necessary sterile dressings for amputation of the leg or fore-arm, with gauze retractor, sponges, and so on.

Packages of gauze, cotton, adhesive plaster, and so on.

Bandages—gauze, muslin and plaster paris
Operating gown, rubber apron, and gloves.
Enameled instrument trays.

The minor operating bag should contain:

Minor operating case. Fig. 5.

Roll containing hemostats, scissors, forceps of various kinds, needle holder, and so on. (This roll is the same one used in the major bag and is interchangeable.)

Hypodermic syringe and tablet case.

Skin cleansing equipment for surgeon's hands and injured parts.

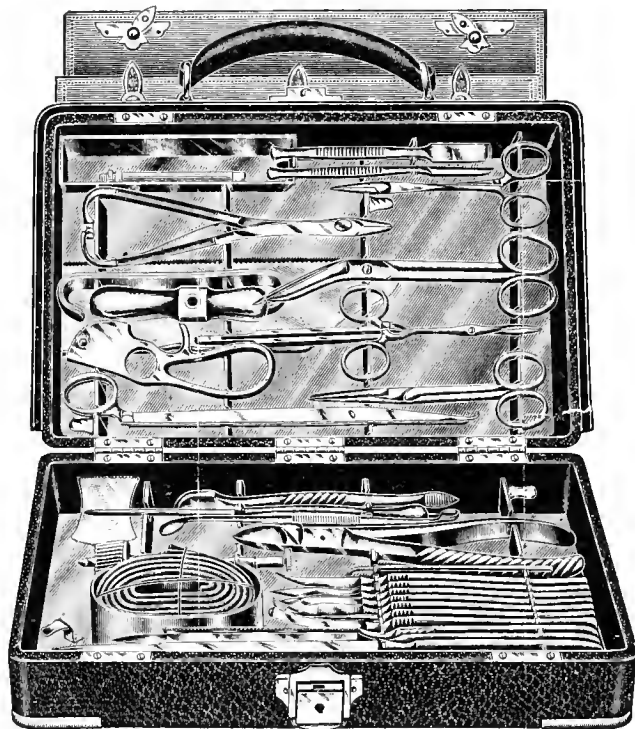


Fig. 3. United States Army Operating Set

Antiseptic tablets, tincture iodine, alcohol, iodized gasoline, vaseline, solution picric acid, and so on, in suitable containers.

Chloroform, ether, and mask or inhaler.

Ligatures and sutures.

Bandages, adhesive plaster, cotton, gauze, safety pins in assorted sizes.

Bundle of necessary sterile dressings for minor amputations and wounds.

Operating apron, towels, rubber gloves.

Enameled pan for instruments.

With two such bags packed ready for instantaneous use the country surgeon is prepared to grab and run to meet any ordinary emergency. For extraordinary or unusual cases he can have ready within reach, Murphy buttons, tracheotomy tube, eye instruments, and others which may be called for sporadically.

For the treatment of fractures and dislo-

cations there is a special bag (Fig. 6) which contains:

Plaster paris bandages, 2, 3, and 4 inch widths, and some loose plaster, all in the metal box in the bottom compartment.

Muslin bandages, 1, 2, and 4 inch.

Adhesive plaster; rolls, 1, 2, and 4 inch.

Splints or splint materials.

Bandages scissors.

Safety pins, assorted sizes.

Plaster-bandage knife or shears.

Salt in noncorrosive container.

Alum in container.

White cotton stockings, assorted sizes for primary bandages in plaster paris work.

Cotton batting for padding splints, and for other purposes.

The Obstetrical Bag

The obstetrical bag contains in addition to the usual requirements for such work the instruments and supplies needed for forceps delivery, repairing a lacerated perineum, curetment, tamponment, instrumental dilatation of the cervix, craniotomy and embryotomy. Cesarean section is a major operation which usually gives one a little time for preparation, and if the major operating bag is ready for action you will find therein all the essentials for an abdominal operation. Fortunately

for both mothers and infants, modern science has made the Cesarean operation so safe that it has supplanted embryotomy, craniotomy, and other infanticidal "otomies."

Secondary operations or operations which are best performed at a time subsequent to the initial treatment, such as skin grafting, bone grafting, application of steel plates to fractures, and so on, are not regarded as emergency work.

Now for a Hurry-Call!

Everything about your equipment being ready, now for a bit of action.

"Ting-a-ling-ling-ling!" goes your phone.

"Hello!"

" 'Sthis Doc Jones?"

"Yes."

"Say, Doc, come out to Bill Brown's just as quick as you can get there!"

"What's the matter?"

"Huh?"

"What's the matter out there?"

"Why, they want you. Hurry up!"

"What for? Is somebody hurt or sick or having a baby or what?"

"O-o-o-h! One of the men got his arm cut off in a sawing machine!" And in two seconds you are busier than —, well, you order your team or auto brought around, jump into your driving clothes, grab your major and minor operating bags and your medicine case, and stand champing at the bit long before the livery man shows up. On such occasions it is *always* best to hire a driver as the work at the traumatic end of the trip will require that your hands and arms be in good shape and not tired, cramped, weak and trembling from handling a lively team or a jolting auto. You drive like gehenna and find that one of Bill Brown's men has suffered a laceration of two fingers.

Experience with many accidents has proved to me that messengers, telephonists and witnesses invariably get excited and magnify the extent of the injury, and while you rush out prepared to amputate a leg or arm, you more often find only a trivial injury to hand or foot. The sight of blood acts queerly on most people. However, do not grumble, for it does no harm to go prepared to meet any emergency.

The Kind of Accidents We Must Deal With

The accidents to be encountered in the country may be divided into village, farm and household risks, and these may be further classified as those subjected to home treatment and those brought to the doctor's attention. In the villages we find small machine shops and factories, the blacksmith shop, printing shop, flour and feed mill, wood-sawing outfits, grain elevators, creameries, cheese factory, the general merchandise establishment handling farm machinery, harness shop, the unprotected railroad station, trapping and fishing for the market, and many such industries not commonly known in the cities. On the farm the risks involved are those incidental to the use of plows, harrows,

cultivators, seeders, planters, harvesters, mowers, rakes and loaders, feed cutters and shredders, threshing machines, hullers, fan-ners, sorters, shellers, and so on; a combination of points, edges, cog wheels, belts and pulleys which cut, slash, crush, puncture and lacerate. There is usually a steady crop of foreign bodies in the eye and the careless farm hand, wandering child or "city jay" is not infrequently the victim of an animal bite, kick or sting, and even occasionally gets rolled on by a circumrotary equine, with consequent bruises, dislocation or fracture. Ditto with a precipitate unseating when riding a fractious or shyful critter.

Minor Injuries Also, Injured Animals

Many minor injuries, capable of serious aftermaths, come from rusty nails, broken glass, old tin cans and similar factors which find lodgement in the yard because no waste-barrel is provided; also from the careless or injudicious use of tools. Explosions, either steam, gunpowder, or dynamite, are prone to render participants and innocent spectators *hors de concussion*. Election days, New Years, the Glorious Fourth and certain local holidays frequently give rise to pugilistic traumata. Every season presents a group of

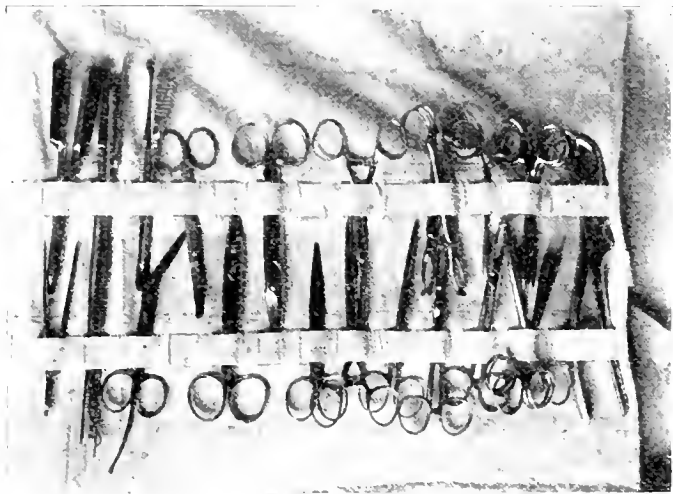


Fig. 4. Roll of Instruments

emergencies due to weather conditions; frozen digits and limbs, sunstroke, lightning stroke, cyclone casualties, and so on.

The veterinary element will creep into your work if there is no veterinary surgeon in your vicinity, and while many may look askance at the horse or dog as a patient, I never could

see any reason why an injured pet or domestic animal should be allowed to suffer merely because it is a dumb brute. I have ministered to the wounds of many such creatures in my time and I do not think my reputation,

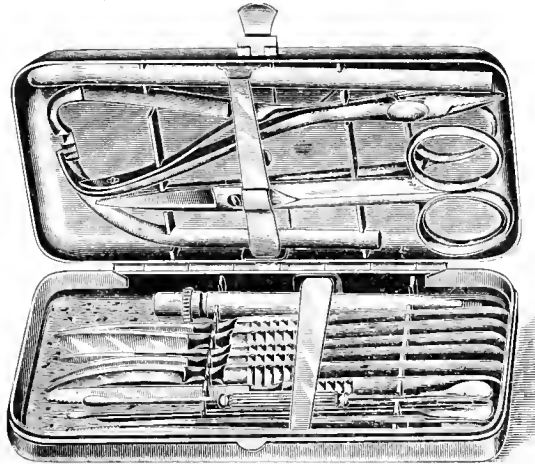


Fig. 5. Minor Operating Set

dignity or purse suffered thereby, and I feel morally certain that not a few of them were better entitled to help than some of the human animals I have been called upon to repair. Never refuse aid to an injured dumb animal; if you cannot help it, you can "euthanaze" it.

Most household accidents occur to children and women. There are burns and scalds, swallowing of coins, buttons and small toys, foreign bodies in the eye, ear, nose, throat, hands and feet. Accidental poisoning from medicines which have been carelessly left where children could get hold of them. Bruises, felons and minor cuts are common and sprains and epiphyseal injuries are more often met with in children than fractures and dislocations.

The drunken farmer who once mixed up with the cars at the railroad crossing has braced up and reformed and given way to the city auto fiend who is a stranger to the roads and the train schedules, and who tries to occupy the same space at the same time with the limited express. Railroad accidents are just about as frequent in the rural districts as heretofore, but the class of victims has changed. The gunshot injury is with us always, but legal restrictions have practically confined it to a few months in the year. The fishhook is a perennial source of revenue.

In conclusion, let me submit a few appendiceal admonitions and suggestions.

A Few "Don'ts"—and a Warning!

Keep cool! Don't get excited and do not allow the psychic perturbation of others to affect you.

Don't prognose! Don't volunteer a prognosis and don't give any definite one or make any promises if asked to do so. Say "try" instead of "can," and "may" instead of "will."

Don't hesitate to ask disinterested persons and even the surplus of those interested to leave the room, as they are always in the way.

Don't be too anxious to amputate. In my bailiwick is a man who was the victim of a combination of boiler explosion and too enthusiastic surgeon; he, unaided, walked downstairs and climbed upon a table to have his leg amputated at the knee. Today he says if he ever meets that surgeon again he is going to shoot him. Sing to yourself this paraphrase of the good old time Sunday school hymn:

Yield not to temptation
To make amputation;
Save all of the tissues
You possibly can,
Fight septic invasions,
Bad symptoms subdue,
Ask Old Nature to help you,
She will carry you through.

Relieve the Patient's Pain

Also you can help nature a little by relieving the patient's pain. Do not hesitate to

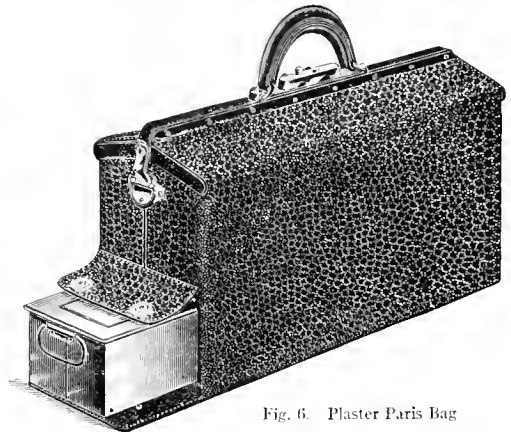


Fig. 6. Plaster Paris Bag

give your patient a hypodermic injection of H-M-C, P. D. Q., or if not prepared for that, give a half a grain of morphine sulphate with atropine 1-100 grain. Small doses are useless in the severe pain attending an injury and it is better to give one good-sized "dose enough"

at first than to be temporizing with repeated small doses which prove inefficient and irritating. The morphine can be followed by an injection of quinine and urea hydrochloride, which will prolong the analgesic effect for twenty-four to forty-eight hours, this practically eliminating all post-operation pains.

For emergency hypodermic use, time can be saved and sepsis eliminated by using ampules or hypodermic units; morphine, codeine, quinine and urea hydrochloride to relieve pain; strychnine and camphor for shock.

It is not always possible to sterilize instruments by boiling. For years I have been using mercuric cyanide for this purpose and have no cause for regrets. Get the tablets made after the formula of Dr. Ralph St. J. Perry, by the Eli Lilly Co.

The white cotton stocking referred to as being used for primary bandages in plaster paris work can be bought for ten cents a pair at any 5 and 10 cent store. Put a hole in the heel for the thumb and they can be used on the arm; cut the foot off and they will fit over a thigh or arm.

Iodized gasoline is made by dissolving scales of resublimed iodine in pure gasoline; make this fresh as needed and use it for removing grease, paint, and so on, from injured parts.

After each use of one of the emergency bags see to it *immediately* that every instrument is in its place and that any sutures, ligatures, dressings, bandages or other supply used in an operation are replenished. Only by this careful and immediate attention can you be always ready to "grab and run."

Some Accuracies of Practice

Correlating Precise Methods of Diagnosis and Treatment

By B. G. R. WILLIAMS, M. D., Paris, Illinois

Author of Williams' "Laboratory Manual"

EDITORIAL NOTE.—This is third in Dr. Williams' new series of articles, every article being of intense individual interest, and all dealing with the twin topics of accurate diagnosis and successful treatment. Read these articles carefully; they will make your burden lighter.

APPLYING the simple heat test to a specimen of filtered urine, we are sometimes surprised to see a rapidly forming precipitate redissolve as the urine boils, to reappear as the liquid again cools. This phenomenon is not simulated by serum-albumin or by the urates and phosphates. Once thought to be a proteose, it has been shown by Levy to be a true albumin.

It is found chiefly in multiple myelomata of the chest-bones and in blood diseases. Its diagnostic significance doubtless is very closely interwoven with tumors of the bone associated with anemias. Therapeutic indications are supplied by the blood picture rather than by the presence of the Bence-Jones body in the urine.

There are many other protein bodies the diagnostic and therapeutic aspects of which must be understood by laboratory-workers; but the above consideration will give an insight into the line of treatment suggested by the finding of the more usual ones.

The Significance of Glucosuria

The average practitioner regards albuminuria and glucosuria as *the* abnormal urinary

bodies. This is a myopic view of the subject of uranalysis and its meaning to present-day diagnosis and therapeutics; but we must confess that glucose in the urine brings up some very important problems in treatment.

So far as diabetes mellitus is concerned, the polyuria cannot be combatted successfully unless we aim our treatment at the glucosuria. We cannot delve deeply into the theories of the dietetic treatment of diabetic glucosuria, but must pass on with a statement of some of the more important principles involved.

Usually the diagnosis is made when large amounts of glucose are present in the urine. It is important at the onset to determine the percentage of glucose in such a urine, in order that the efficiency of the treatment may be followed. Suppose this percentage to be 4. The patient is then placed upon a diet in which the carbohydrates are very closely restricted but not prohibited, inasmuch as sudden withdrawal of all carbohydrates may bring on symptoms of acidosis. Such a trial diet may be found in any good book upon therapeutics or dietetics and need not be detailed here.

Gradually the glucose should decrease to

3 percent, then 2 percent, then 1 percent; and if it fails to do so the carbohydrates may be reduced somewhat further, unless the case is acute or complications threaten. If the urine can be freed from glucose for several days, we may then cautiously increase the carbohydrates little by little, training, if possible, the economy to use these. Eventually glucose will begin to reappear, in which case we must again reduce the carbohydrates and make another trial. Persistency in this regard will enable us to build up a very liberal diet.

Such are the dietetic principles; but what of drugs? Early in the treatment, before we have commenced the "training" and are endeavoring to reduce the glucose, opium certainly is indicated. Observation in a large number of diabetics whose urines I have examined has led me to place considerable stress upon codeine sulphate; if well borne, 1-2 grain each two hours for the first few days of the fight. The first dose should follow the preliminary estimation of the glucose. I have also seen excellent results from the use of heroin hydrochloride used in a similar manner. This is the only group of drugs which I have seen to affect favorably the glucosuria directly until the dietetic treatment began to count. Hexamethylenamine has been advised by Forchheimer in cases where the alkaloids of the opium series fail after a fair trial.

Another remedy certainly of value is arsenic. It probably does not directly influence the excretion of sugar but rather helps the patient through improving his nutrition. However, there is no question that the arsenates and other arsenical preparations render real service.

When ready to train the patient to use more carbohydrates, we must not figure without the Eclectics' chionanthoid, 1 grain after each meal for long periods of time. The treatment, while strictly empirical, is not without value clinically, as I have observed in at least two very bad cases of diabetes.

In every case of diabetes mellitus, we must consider the intestines as well as the tissues; so do not forget the value of Bulgarian bacilli tablets in the treatment of glucosuria of this type. You have been told that pancreatin is not a specific for diabetic glucosuria; and this is correct. But medicine has survived many years, even if denied specifics.

I have observed beautiful results in the treatment of diabetic glucosuria, in which improvement began after the first dose of pancreatin was administered. "A coincidence" suggests the nihilist; but, try pan-

creatin, for this coincidence, when met, is a happy one. Then, too, I have seen obstinate constipation in diabetes relieved by pancreatin, never to return—but this has nothing to do with indications suggested by the urinalyses. Finally, I have seen pancreatin fail; but this only convinces me that it is not a specific, but does not prove it without any merit. If there is any one class of patients that I have come into contact with during the past few years, it is that of diabetics. One lesson has been impressed upon me—*treatment must be aimed directly at the glucosuria.*

It must be remembered that the depleting and exhausting polyuria does not only vary directly with the intensity of the glucosuria, but the total amount of daily urine depends directly upon the number of Grams of glucose excreted in the twenty-four hours. Glucose is a true diuretic; in fact, certain cases of oliguria have been treated by injecting glucose serum.

For a full discussion of treatment, see Dr. W. C. Wolverton's excellent articles in recent numbers of this journal.

Let us turn to a consideration of the non-diabetic glucosurias. It is not unlikely that normal urines contain traces of glucose, but these small amounts are not detected by the ordinary clinical tests.

And this brings up the question: "How sensitive are these clinical tests? Do they determine pathological glucosuria in all cases?" It would seem that they do not, though Benedict's test is somewhat more sensitive than Fehling's. Either may suffice in questioned diabetes mellitus and the temporary glucosurias owing to the abnormal ingestion of carbohydrates; but when dealing with diseases of the pancreas, we have recourse to the method of Cole, a reaction which distinguishes between normal and pathological amounts of urinary glucose. It depends upon the absorption of nonsaccharine reducing substances by charcoal thus permitting the use of the sensitive solutions. However I have found the fermentation tests and Benedict's test extremely delicate in some of these problems.

Pentose—and an Amusing Experience

Now and then pseudo tests may confuse the worker. In cases where we are dealing with considerable uric acid, fermentation-tests will determine whether or not glucose is really present. Sugar reactions in urines submitted to laboratories in triturate bottles must be interpreted with extreme caution (lactose).

In my book upon "Laboratory Methods," I have called attention to certain instances where patients tampered with the urine samples, the intention apparently being to deceive. Lately we ran across a remarkable specimen that might well have been recorded in the series entitled "Laboratory Curiosities" that appeared in this journal two years ago.

The young ladies of a certain vicinity, when sending urinary specimens to our laboratory, fell into the habit of adding to these a few drops of eau de Cologne. This was delightful; for instead of the usual and natural "aromatics," our chemical parlors were now graced with rose, violet, and heliotrope! And then it all ended, for along came one of those samples which drive a laboratory man insane, a high specific gravity, with nothing to explain it, until eventually we found cane-sugar. What esthetic notion should have induced this person to add both perfume and sugar has never been clear to me. The laboratory-man, as a rule, prefers his "without."

But now and then we have to deal with the presence of other saccharine reducing bodies, chief among these the pentoses. The worker fails to observe a positive Fehling or Trommer reaction, and is about to discard the sample when he notes that during the cooling of the mixture the blue color is slowly discharged and yellow cuprous hydroxide formed instead. Fermentation-tests are negative. Just uric acid? No. Specific reactions will show the body or bodies to be of the pentose group.

Pentose has been observed in diabetes and in diseases of the pancreas. Idiopathic pentosuria must at present be regarded as a pathological curiosity rather than a condition calling for special treatment. These cases usually are diagnosticated quite by accident.

Bilirubin and the Treatment of Jaundice

The usual methods for the detection of bilirubin are too crude for diagnostic purposes. The foam test is much more reliable than the nitric-acid test. In cases of question, I use the Hammerstein-Nakayama method exclusively; a rather complicated procedure but one that will detect 1 part of bilirubin in 1,000,000 parts of urine. And bilirubinuria, though not marked, always is to be regarded as a pathological finding.

The presence of greenish or yellowish renal cells in a specimen of urine should lead us to suspect and search for bilirubinuria.

Time was when the biliary acids or their salts were supposed to be the toxic and otherwise important factors in the causation of those morbid symptoms coincident with the

entrance of the hepatic excretory products into the blood. But these are rarely or never demonstrated in considerable quantities in the urine. It has been with considerable relief, therefore, to the diagnostician that these older views have been proved incorrect, and his attention directed to bilirubin.

Waste hemoglobin is excreted by the liver, reaching the bile capillaries as bilirubin (hemoglobin minus iron), a pigmentary body that is a true poison. Normally it passes into the intestine and away from the body. But in certain pathological processes which my readers understand, this toxic body not only passes into the bile capillaries but likewise into the vascular and the lymph passages, thence into the general circulation, and is eventually excreted—mainly by the kidney.

Once a part of the hemoglobin molecule and favored in chemical physiologic processes, bilirubin is robbed of its iron and cast aside as a waste product. Entering again into its former domicile, it is regarded as an enemy, and a fierce battle is waged. Some of this bilirubin, notably in *icterus neonatorum*, may be thrown into the tissues in the form of crystals and disposed of at leisure by their cells. Then, too, antibodies are formed, else death would quickly result; for it has been shown that a man excretes enough bilirubin in twenty-four hours to kill three of his weight. It is six times more poisonous than the toxic substances of the urine.

However, bilirubinemia is a pathological condition to be reckoned with, for all of the bilirubin is not neutralized; and this uncombined part actively destroys many cells, especially the hepatic cells (this leading to urobilinogenuria), the erythrocytes (leading to erythrocytolysis), and the cells of the uriniferous tubules (toxic desquamation into the urine).

I cannot take the time and place, in this paper, to go fully into the symptomatology—the mental depression, irritability, nightmares, fits of anger over trifles, headache, giddiness, itching, and more of the kind—since it would lead me too far.

Bilirubinuria is proof of bilirubinemia; and it is this that we wish to treat. How? I think that I hear you murmur, "Call a surgeon." Not so. Many of these cases fall into the department of internal medicine.

The trouble lies with the diagnostician, for many cases of bilirubinemia go undiagnosticated, or they are discovered late, when already the bilirubin occurs, not only in the urine, but is being deposited in the skin. I have reference to these cases where the bile

capillaries, or the hepatic perenchyma rather than the ducts, are involved; for in the latter case the surgeon must help us out.

How are we to treat the early stages of angiocholitis, catarrhal jaundice, cirrhosis of the liver, and so on, before symptoms and signs make it obvious even to the layman that we are dealing with a disease of the liver?

We know that most of these early cases are aided by proper attention to the bowels, not only to the colon but to the entire intestinal tract. Thus, we must not limit our treatment to the use of laxative salines (although these will help), but must employ remedies aimed at the upper gut, choosing especially podophyllin, with or without the bile salts, and alternated with juglans and quassia. Cascara, phenolphthalein, and other like purgatives will not serve us so well here.

This treatment should be followed early by the use of the salicylates, or perhaps better by the use of sodium succinate and chionanthoid combined with calomel and podophyllin, of each of the latter 1-6 grain, repeated four times (a dose each half hour) before retiring; followed in the morning before breakfast by a flush by means of a saline draught. Once the bilirubin is driven from the urine, it is well to continue with small doses of bile salts for several weeks (to give tone to the parenchyma).

Remember, in these bilirubinurias, to determine the possible relation of the typhoid bacillus (carriers) and of the treponema (hepatic syphilis) and administer a typhobacterin or mercurials as warranted.

Urobilinogen and its Peculiar Significance

Under this caption, we come to a very absorbing subject. The liver has been accused in many diseases in which it really played no part, and it has been overlooked where later exploratory operation or autopsy has shown it to have been to blame. I cannot go deeply into the diagnostic information furnished by the detection of urobilinogen in the urine, but will merely give in brief its significance and therapeutic indications, quoting extensively from a former article which I prepared for *The Medical World* (December, 1912).

Neubauer and others have shown that Ehrlich's modified diazo reaction is, in reality, a test for urobilinogen escaping into the urine. In health, this urobilinogen is "worked up" by the liver parenchyma, and cannot be found in the urine; but in certain diseases much of it escapes before being properly altered. The

modified diazo reaction was formerly thought to be proof of typhoid infection, but now we know that it occurs in such cases of typhoid fever as are associated with injury to the liver.

It would appear that uninjured cells of the liver are able to compensate in part for those which have been destroyed or weakened. Thus, urobilinogenuria may fail to be present in a certain local and severe disease of the liver, whereas it may be marked in a milder condition but in which all or most of the cells are involved; for example, angiocholitis, hepatic syphilis, cirrhosis, passive congestion, and so on. The disease need not be a primary liver condition, the meaning of urobilinogenuria being that of hepatic injury of a general type, either primary or secondary, *but hepatic injury nevertheless*.

Obviously, we must expect best results in treatment when we aim at the cause; but, as I have said, differential diagnosis cannot be undertaken here, inasmuch as a large chapter could be written upon the interpretation of urobilinogenuria, so we must be content to speak of the treatment of urobilinogenuria as such. The diagnostician will also determine the presence of syphilis, passive congestion, and so on.

The indications by no means are those supplied by bilirubinuria. Purgatives are not indicated by urobilinogenuria as such. Usually they are contraindicated, or should at least not be severe, for invariably the urine is concentrated.

It is probable that any drug which stimulates to action a given type of cell will increase its functions in general. We know that the liver has several functions; and we have reason to believe that each unit contributes in part to these several functions. That is to say, each liver-cell aids in the disposal of waste hemoglobin, in the elaboration of urea, and in the storing of sugars. Each cell, furthermore, aids in the disposal of urobilinogen. Stimulate a liver-cell, and it is quite likely that it not only will dispose of hemoglobin more rapidly and completely but will store sugars with a vengeance, perfect the urea molecule more easily, and let less urobilinogen slip by unaltered.

No less authority than Cushny has made the statement that "bile is the only reliable cholagog known . . . and the constituent which acts upon the secretory liver-cells seems to be the bile-acids . . . and it would seem that they exercise some specific action on the secretory cells."

If in this assumption Cushny and other

authorities are correct, it would seem that all urobilinogenurias call as loudly for bile-acids, or their salts, as do faltering heart-cells call for digitalin. As a matter of fact, I have witnessed the administration of bilein in cases of urobilinogenuria followed by remarkable results. The experiment certainly is worthy of further trial.

Remember, however, what I have said concerning the treatment of the cause. Such cause is to be worked out in connection with other laboratory findings, symptoms, and signs. I have given much time in my book to the technic of the test, so, shall not repeat the directions here.

Urochromogen—Another Interesting Pigment

There is a temptation to enter a discussion of the normal pigments of the urine and of their variations in disease, but space limitation forbids.

Urochromogen is to be regarded as a possible precursor of other urinary pigments and never is found in strictly normal urine. The urochromogen reaction is held by Weiss and others to be a part of the diazo reaction, and even precedes the latter. Urochromogen is noted in late pulmonary tuberculosis, and is of prognostic rather than of diagnostic worth. It seems to indicate that the case is hopeless and argues against further use of tuberculin (if such has been administered up to this time) warning the physician that continued injections may actually hasten death. Hence, we are to speak of the urochromogen reaction as a contraindication rather than an indication to certain therapeutic measures.

The test will not yet be found in books upon laboratory methods, and, so, is here given in brief.

Fill a test tube one-third with the clear, fresh urine; then dilute it two times and separate into halves. Add to one of these halves 3 drops of a 1:1000 solution of potassium permanganate; mix thoroughly and compare with the other half. A yellow color is regarded as a positive test.

Hemoglobin: Its Meaning in the Urine

In the beginning, two types are to be distinguished; namely:

1. Where hemoglobin is released into the blood (hemoglobinemia) by the action of certain poisons, as, anilin, chlorates, carbon monoxide, snake venom, and so on; and by certain infections, as malaria, syphilis, and so on. In these cases, diagnosis must depend upon the chemical tests, inasmuch as red cells usually are absent or few in number.

These are the *true hemoglobinurias*, and they demand treatment based upon different principles from that of the class to follow. Thus, in syphilis the iodides are strictly indicated; but they would not be if the hemoglobinuria were owing to the abuse of headache powders or the use of other hemolytic poisons.

2. Where hemorrhage occurs in some part of the urinary tract, as in the various nephritides, painful oxalurias, tuberculous infections, calculi, malignant neoplasms, and so on. These are the *true hematurias*. However, for the reason that the hemorrhage may occur high in the tract, because of the osmotic influences exerted upon the erythrocytes by virtue of urinary concentration or dilution or for other reasons, much or most of the hemoglobin has been released from the cells, which latter appear crenated or as ghosts. By careful microscopy, true hematuria and hemoglobinuria usually may be differentiated.

Hematuria (ofttimes with secondary hemoglobinuria) may be treated as such, though the cause must be removed if possible. These causes have been mentioned above; but now and then a cause cannot be determined. In these confusing cases, the escape of oxygen-bearing protein may not be inconsiderable. In such instances, we must not be at a loss for remedies.

When hemorrhage from the urinary tract is profuse, absolute rest in bed is necessary. In the desperate cases, we would add to this morphine sulphate injections, an ice-bag over the probable seat of hemorrhage, and so on. Of course, all of these recommendations cross the borderline into symptomatics, but they must be applied in part in order to obtain results in the occult hematurias determined in the medical laboratory.

Now and then we run across hemoglobin in the urine when least expected. The urine may not be red, or else such color is obscured by pus or pigments other than hemoglobin. Thus, I have in several cases ascertained the cause of puzzling anemias. I am certain that the routine test for urinary hemoglobin is too frequently omitted, even in our best clinics. Strange, is it not, when we note that so much attention is given to explaining disease by virtue of the escape of traces of hemoglobin by the bowel?

Careful tests usually will reveal a decided lengthening of the coagulation-time of the blood. Whether this is true or not, the physician never should overlook calcium lactophosphate; calcium being one of the

factors favoring more rapid coagulation of the blood and thus arresting hemorrhage. Perhaps coagulation is delayed because of the absence of certain ferments. Thus, cessation of the bleeding may follow the use of normal horse-serum. Do not neglect the use of calcium lactophosphate and normal horse-serum when the laboratory expert who does your work reports hemoglobin, even though it has been found only in traces.

Shun the use of digitalis, camphor, ergot, epinephrin (unless this can be applied directly to the bleeding surface), stypticin, and so on, as their use has no rational basis. Empirically, I have seen some beautiful results from the administration of oil of turpentine; though caution should be used in the case of nephritics.

Again let me warn you not to forget to treat the cause. In painful oxaluria, follow the advice that will be given under this heading. In probable infections, do not forget hexamethylenamine. Correct hyperacid or alkaline urines. Look into the question of tuberculosis, syphilis, stone or cancer. Fall back upon the surgeon, if necessary; for many of these cases, though not all, by any means, can be relieved only by operative interference. Roborant medication must not be neglected where the resulting anemia is marked but the indications are supplied by symptoms and blood examinations rather than by urinalyses.

Indican—A Sign of Proteid Decomposition

The presence of indican in the urine indicates proteid decomposition at some point in the body. Many men have ventured the opinion that indican is not always to be counted an abnormal constituent of the urine; arriving at this conclusion because they have not always been able to find the focus of decomposition. In the great majority of cases of indicanuria, but not in all, the colon may be held to blame, for indicanuria is not uncommonly met with in hidden local infectious processes (tonsils, teeth, nasal sinuses, lung cavities, and so on), and in the degenerative processes associated with malignant new growths. However, most cases of indicanuria may be successfully combatted by proper attention to the bowel.

I need scarcely reenter into a consideration of this question, which we have studied so carefully under the head of bowel-acidemias. The treatment is identical; in fact, indicanuria usually is proof of the excessive formation of poisonous acids. The urea precursors may have neutralized the acids in

part, but nothing is present to care for the telltale indican. Red indican may be found instead of the ordinary form, but therapeutic indications are not altered in consequence.

Indolacetic Acid

This is one of the poisonous acids formed not only in the putrefaction of proteid food-stuffs in the colon but in tissue decompositions. The therapeutic indications are those for the acidemias. Other acids less easily identified are those of the sulphur series, hydrocyanic acid, paraoxyphenylacetic acid, and paraoxyphenylpropionic acid.

Diacetic Acid

Gerhardt's test, as modified by adding the urine to the ferric chloride, is used for detecting diacetic acid, and it will be of service in routine work. When dealing with mere traces, we must fall back upon some of the more complicated but sensitive tests.

This body is more commonly met with in acidosis than in acidemia, and is a derivative of betaoxybutyric acid, the cause of diabetic coma. The finding of diacetic acid in diabetes, especially if there is enough to give a Gerhardt's reaction, calls for the vigorous use of alkalis, as well as for the general measures applied in all diabetics.

Diacetic acid should be found in the urine before the onset of coma, for after its appearance it is useless to expect good results from the alkalis. In fact, routine diacetic-acid tests are quite as imperative as routine glucose estimations.

These patients will, as a rule, drink large amounts of water. If possible such waters should be alkaline (Vichy, Neuenahr, and so on). Sodium bicarbonate should be given in large doses by mouth; or in the desperate cases it may be given by rectum or intravenously. By mouth, not less than 10 Grams should be given daily; many times this quantity if possible. The object is, to render the urine alkaline. If symptoms of coma are not already present, this usually is possible. By rectum, 100 or more Grams should be administered and retained. If the case demands intravenous injections, a liter of sterile 2-percent solution in physiologic salt solution may be given four times during the twenty-four hours. These cases demand cathartics, especially the saline flush.

Diacetic acid may occur in the urines of others than diabetics. It may or may not be accompanied by acetone. It is quite likely to be found in any case of "carbohydrate starvation," whether this be owing to the

inability of the tissues to use the glucose supplied, or whether, as in postanesthetic vomiting, appendicitis, pregnancy, and so on, the tissues are willing enough to use the sugars but these have not been supplied (diet before anesthetic usually is meager), or, if supplied, have not been assimilated by the portal circulation (appendicitis). In consequence, proteids or fats are broken up instead, and poisonous remnants result.

In the postanesthetic cases, diacetic acid in the urine may be avoided, or else the treatment becomes a very simple matter—merely feed the patient simple sugars. If

because of vomiting or other reason these cannot be taken by mouth, they may be given by high rectal injections. In appendicitis and like conditions associated with urinary diacetic acid and vomiting, the portal system cannot properly assimilate the simple sugars, because of the coincident perityphlitis, and the tissues fall back once more upon the proteids or the fats. Here proper surgical interference is the rational treatment.

The next article will treat of the "Indications Suggested by the Quantitative Urinalyses."

The Economic Efficiency of Medical Partnerships*

A Story of Successful Cooperation

By F. E. WALKER, M. D., Hot Springs, South Dakota

EDITORIAL NOTE.—"How can I increase my income?" This is a question thousands of physicians are asking themselves. One way of doing this is by cooperation—"getting together" with other physicians for mutual advantage. Dr. Walker explains how he and others made such a plan profitable for all.

THE rapid advance of specialism in medicine and in surgery during the past ten years has effected a very marked change in the practice of our profession. The individual who wished to specialize, but who did not live in a city where the services of other specialists were available, was unable to cope successfully with the changing conditions; and as the clientele of the specialist was becoming more familiar with the progress and possibilities of medicine and the popularity of specialism grew, a demand was created for more detailed examinations and treatment. As a result of this change, it became necessary for the thoughtful practitioner engaged in a specialty, particularly if surgical, either to perfect himself in every branch of medical science or to surround himself with other men specializing in other branches.

Recognizing the impossibility for one man to grasp and retain in full, or even in major part, the many applied branches and divisions of this science, I decided, after long study, to form a company or corporation which should include the different branches in such a manner as to cover the field concisely and inexpensively in accordance with the growth and development of my business.

Many plans were thought of, many medical firms were investigated, and a very considerable correspondence was carried on. In this way I found that a large number of firms were in existence, but a close examination proved that the most common plan of medical organization followed throughout the country was not remunerative to the firm, its members, or its patrons: so many firms of two, three, four or five members were conducting a business along practically the same line of specialization as that of each of its members, and all were apprehensive of poverty whenever a suggestion of discontinuing their individual general medical practice was made.

It did not appear practicable for me to assume the role of a surgeon and at the same time take in new men who wished to become known as surgeons only. Such undertaking would cover but a comparatively small field of work, and that only surgical; and this did not seem to suit the purpose for which the proposed organization was planned.

The Prime Considerations

I reasoned that, at the outset, the following facts must be borne in mind, namely:

1. That the field of activity itself be carefully considered.
2. That the amount of capital invested in the business must yield a fair return.

*Paper read before the North Shore Branch of the Chicago Medical Society, December 3, 1913.

3. That the concern must be well housed, well equipped, and placed upon a sound business footing, and with enough men specializing in different branches of medicine to give all the benefits that could be secured in a large city.

The diagnosis and treatment of numerous ailments demand the attention of one especially skilled in their pathology; they require a careful history of disease-conditions originating within the parts of the body, the functions of which are best understood by the one who is trained in that particular department of medicine. It follows that a number of specialists, each assuming a particular field of work, by association and conference could render skilled service to every demand made upon them by any particular patient.

In such a partnership, then, it would be advisable—yes, imperative—to have every regular branch of medical practice represented, so that the patient in no case would be put to any unnecessary expense by reason of numerous examinations and costs of travel, and that he might, without loss of time, be under the care of those capable of advising him, and receive treatment for any pathologic conditions from which he might be suffering. It also seemed to me that a hospital connected with such a firm would be better patronized and more able to maintain a higher class of equipment as well as show a much lower mortality rate. And, as a further consideration, the cost that such a partnership would incur, should, of necessity, be less than the maintenance of separate offices by each one of the physicians concerned, because under such a properly constituted organization the expenditures for reception-rooms, laboratories, attendants, bookkeeper, electricity, water-service, heating, operating-room, and all that would be reduced to the minimum, while simultaneously there would be a corresponding increase in business because of the improved and less expensive service offered.

A community served in this manner would enjoy the same prestige over others of like or even of five or ten times the size having even better transportation facilities or where there were a number of medical specialists located in different parts of the town.

A Disease "Clearing-House"

Such an establishment, it seemed, would at once be recognized as a "clearance-house" for all diseases, a sort of wholesale health-center and terminal point for all afflictions, a national bank of issue for certificates of

health and wellbeing, a Mecca for sufferers from any kind of physical ill. It likewise would, in itself, be an asset to the community and an advertising-feature that could not be assailed from any ethical standpoint, and, above all, a business proposition which, if conducted correctly, would prove of great financial benefit to the members of the firm.

I felt, too, that the association with several medical men in the practice of their respective specialties would be a source of great strength to each one, directly and indirectly, and that this, again, in itself would become to the public an indorsement of the ability of each member by all the others so interested. It would insure to the patient the intelligent, sincere, and studied attention of every associated member of such a firm and would be especially beneficial during the period of absence of any one of the physicians. With careful histories and records furnished through personal investigation by the physician, a practically unbroken line of treatment would be at hand at all times, and at least one, if not more, of the members of the firm would be thoroughly familiar therewith.

Again, it seemed to me that the constant realization on the part of the doctor, that his work would be always under the critical eye of those understanding its nature, would be a continual spur to him to do his best. In other words, he would not be so liable to fossilize as when isolated in his practice.

If the reliability or standing of a banking-house is advanced by the number and the financial responsibility of its officers and stockholders, and if concentration of its financial interests tend toward increasing responsibility and efficiency so combined, then, naturally, associated talent of any kind makes for greater results in every effort to which it may be directed.

Furthermore, with several associated members cooperating as one firm, each would find time for needed rest from labor and for study-trips, without material loss of business, and with the added advantage of each one profiting by the very extent of his vacation and the study-periods with his associates.

What Is Necessary in Medical Partnership?

In order to insure success of such a medical partnership, two factors are essential, namely:

1. Men who are legally and naturally qualified to practice medicine.
2. Men who will command the respect of the community in which they wish to engage in practice, and whose personality will not

only give good service but will increase the business.

3. Men capable of recognizing a disease when confronting them, and who are provided with the necessary equipment to aid them in arriving at correct conclusions.

4. The requisite skill and knowledge as well as experience to supply suitable remedies and to perform necessary operations looking toward relief.

5. Conditions such that at all times, under reasonable restrictions, these doctors be accessible to their clientele.

6. Men of sympathetic temperament, understanding the financial conditions of the public, and willing to grant their services for reasonable compensation, and also be just as willing to give without charge their services to those worthy of charity.

The Financial Aspect of Medical Practice

It is not necessary for me to speak of the lack of business-acumen and financial knowledge among students of medicine, and it is a pitiful condition existing among our graduates that they enter the practice of medicine expecting to secure profits and then fall into the same channel of business losses that has been so characteristic of the profession from time immemorial. Some day, I hope, every medical college will have lectures upon the business side of the profession and give the new men entering the field proper ideas and suggestions upon the business side, and especially the financial side, of their work.

I believe the financial side of the business of practicing medicine should be studied just as well as the professional, and scientific sides. Every prospective doctor should understand that connected with the business there always has and always will be a certain amount of charitable work to perform, greater perhaps than in any other profession in which he may engage.

Realizing this fact, it becomes his duty to insist upon a fair remuneration for his services from those who are able to pay, and in order to obtain this fee he should be as particular regarding the taking of his patients' financial history as he is in obtaining their physical history. This being done, the rest is easy. He should demand prompt payment, and then live within his income. If he cannot do the latter, he should get into some other line of business. This, however, a doctor seldom does unless he loses confidence in himself or fails in health.

A man should be sufficiently grateful to his physician for services rendered to ask

him in regard to the remuneration he desires and then try to satisfy all his just demands; but so long as a great majority of patients are afflicted with lack of appreciation and a marked tendency toward forgetfulness of their obligations, it becomes the duty of the philanthropically inclined physician to supply remedies to correct the conditions.

I was struck rather forcibly upon investigating partnerships to find that a number of such partnerships carried the element of professional jealousy; and this was one phase of the partnership which I desired to obviate. And here I will say in passing that during the period of four years of our present method this element never has entered into my own mind or that of my associates. Each man is distinctly individualized, assisted and encouraged, and no one is allowed to overstep this distinctly individualized line.

How the Firm Was Started

With these preliminaries well formed in my mind, I decided that my location—Hot Springs, South Dakota—was as good as I could find anywhere, although we did have many local obstacles to overcome. However, the great advantage lay in the fact that Denver and Omaha, while approaching nearest to what might be termed medical centers, were each several hundred miles distant from Hot Springs, and our nearest competitive hospital was more than one hundred miles away. Also, the population adjacent to Hot Springs was sufficient to maintain in itself an organization such as I had in mind. This was evidence enough to convince me that I should be satisfied to make an attempt.

Therefore, I sold a one-third interest in my business to Dr. P. T. Geyerman, of Minnesota, and we undertook the erection of a strictly modern medical office-building of twenty-two rooms; the first floor having a large reception-room, four office suites, and a general manager's office; the second floor having three suites of office rooms, a stenographer's room, a laboratory, library, developing-room, and reception parlor. This ready, we secured the services of an expert electrotherapist and radiologist, a specialist on eye, ear, nose, and throat diseases, a dentist, and an internist capable of attending to the pathological laboratory.

Our initial expense of building and equipment constituted an outlay of practically \$20,000, and our first year's expenses reached the sum of \$8424.94. I had already secured the exclusive use of the Sisters Hospital, which at that time had about thirty beds and

seven nurses. We moved into our new building, and, after adjusting ourselves to our new environments and conditions, we gradually perfected our business arrangements, soon finding the patronage increasing in a most gratifying manner. Next we instituted a training-school for nurses. Also, the Sisters erected an addition to their hospital, which now has accommodations for nearly one hundred patients. In our training-school we have at the present time some twenty nurses, while last year we graduated our largest class, consisting of ten pupils.

The Business Arrangements

Our departments were divided as follows: surgery and gynecology; kidney, bladder, and rectal diseases; eye, ear, nose and throat; internal medicine and pathology; oral and dental surgery; x-ray and electrotherapeutics.

We employed a business manager, to look after the accounts, to draw up all legal documents, to assist in placing our business upon a sound footing, following as nearly as possible the banking system. This man's duty consisted in keeping the books, in securing negotiable notes, looking after the collection of all accounts, reducing the expense, attending to patients, and having entire charge of the legal department and the purchasing of all materials both at the hospital and office.

With the exception of the dentist, each man was placed on a salary, and a contract was given which allowed him a certain percentage of the business of the firm and the individual increase by reason of his proficiency and his ability to draw new business. The dentist paid us for his rooms, we furnishing all service connected therewith. A stenographer was employed for general purposes and is available to each physician.

Our general manager immediately placed the business upon a sound footing, with the result that we found it possible to collect accounts and to reduce expenses; which not only gave us a corresponding increase of income and decrease of outlay, but seemed to have a most salutary effect upon our patients.

So, because of this gentleman's management we were able during the last twelve months to reduce our total expenses by over \$400.00 and to increase our receipts of old accounts 23 1-2 percent over the year of 1912 for a corresponding period.

We do not take any calls outside of the office or hospital; we do not carry on any insurance business of any kind whatsoever;

we do not have or hold any position with any railway or other corporation; we do no obstetrical work, save the few cases which enter the hospital; and our office-hours are strictly adhered to, and only urgent appointments are made for Sundays. We have not attempted to secure any business in a social or religious manner or through lodge attendance, but rely strictly upon our ability and individual as well as collective merit.

Details of the Medical Work

A history is taken and a preliminary examination is made by our internist of all patients except those who go directly to the hospital or those especially urgent cases requiring attention by any one or all the men in the office.

The internist visits the hospital every morning and is present at all operations except minor ones, making his own notes and introducing these notes at our evening conference each week. From the hospital he goes to the office and there continues the taking of histories, except the histories of eye, ear, nose and throat, and dental patients. He continues this during the afternoon from two to four o'clock; and when not occupied in this manner, he attends to the laboratory work and is called in conference and consultation upon such cases as may be required.

The history and the urinary and blood examinations are made out, and in the afternoon from two until four the patients return to the office and are examined either on the same day or the day following, depending upon the condition as well as the number of patients which can be seen. We make it a point to give each patient plenty of time, although it often happens that it is impossible during busy periods to see some patients for some time, which may be from one to three days.

Such patients as require surgical treatment are sent to the hospital, and a nurse there takes the history again, which is kept on record at the hospital together with all operative and postoperative notes. The careful history is kept in a proper file at the office, together with a copy of the operative and hospital histories.

The Result

1. Under the system which we have, each physician is living a professional life, is strictly adhering to his specialty, and has time for recreation, investigation and study.

I believe it unjust to the public for one to assume the role of specialist and then practice

general medicine on the side; and it seems to me one cannot give his best energy and skilled services in any other manner than to devote all his time and attention to the specialty he has chosen.

2. As an organization, we have received a great stimulus in our ambition to grow better, while our scientific work has given us a far better hold upon each other, has increased our confidence in each other, and has perfected a system of examination, of treatment and rapidity in surgical work which we believe cannot be obtained by any coterie of men under any other system; and, further, we have enjoyed the social side far more than if we maintained individual offices.

3. Our field is increasing, owing to several facts, namely:

a. The plant which we have built and equipped is comfortable, homelike and simple, and shows evidence of the stability of our enterprise and that it is an institution of permanence. This we have found to be one of the most important factors in securing the confidence of our patients.

b. The systematized examination of patients, the careful recording of histories, the permanence of treatment, and the careful, honest, honorable intention, not only of the physician, but of all associated, instills within the mind of the patient the feeling that a conscientious effort is being made to relieve him of his ills.

c. We carry on a correspondence with our patients after their leaving, showing them that we are interested in their continued welfare, and in this manner we secure their interest, confidence, and esteem.

d. We do not allow internes in the hospital, but each patient is looked after by competent and well-qualified physicians who have had extensive medical practice.

e. The financial transaction is carried on with a great deal of care and judgment by ourselves, and especially by the clerk, and it is our endeavor so to approach our patients that they not only regard our services with feelings of gratitude, but that it is a matter of business for them to get well and that we are selling them good health; that it is a strictly business proposition and should be looked upon in that manner. We find this system producing increasingly better results each successive year, and, surely, those who return to us for further treatment come prepared to transact business as they should; and in no instance can I recall that we have lost any patient by reason of our methods.

f. I believe it a law of philosophy that

"concentration is power," and the fact that all who come to us realize that in one building are a number of men working in harmonious cooperation for their good; that these men have spared no expense in furnishing and equipment; that services can be secured either there or at the hospital at any time; that they are being looked after by men who are specializing and who, in the aggregate, represent concentration and specialism; that here they can find the very best place to go for the alleviation of their bodily ills.

g. We are educating our clientele to these facts, and, as the average patient going to a medical center comes from the rural districts, it is possible for us to show him that in this particular city we have a medical center comparatively easy of access, free from noise, turmoil, dust, dirt, smoke, and other irritating influences of a large city, and, best of all, that he will have, as long as he continues treatment, one or more, or all, of the physicians of this organization for one fee, and that no untried or immature medical men will be allowed to have charge of or in any manner whatsoever treat him.

4. Our general expense is decreasing, while our income is increasing at a ratio of about four to eleven. That is, while we have an increasing business each year, yet, we have been able to reduce the expense because of a saving in many things and, therefore, are able to conduct the increasing business at no additional cost.

5. We have no competition as a medical organization anywhere near us, although one was started in a city some distance from us in our state; but the fundamental principles of their organization were wrong and the organization lasted but a short time. If they had conducted their organization on better principles, they could not have secured a better location. We do not fear competition. It would be impossible for another similar organization to form in our city and destroy us or in any way harm us, and this for the following reasons:

(a) It would involve a large expense. (b) It would take several years for them to make expenses. (c) It would be necessary for them to build a new hospital or to have some society or organization build one for them, and, as the hospital facilities are good at the present time, it would be a matter of many years to educate enough new patients to make a new hospital a paying proposition. (d) The amount of money which we bring to our city because of our organization and hospital is appreciated by all of our business people

and, therefore, they would not look with favor upon such a movement.

6. We are satisfied with conditions, because we have been successful, the outlook is much more promising, and, while we expect to make some minor changes, we believe our present organization is based upon a foundation strictly safe and conservative and cannot well be improved.

7. It is a well-known fact that a medical practice of five, ten, twenty, thirty years' standing in one community is an asset of no particular value, even though the physician who has practiced in a community a number of years and has built up a large and successful practice, if he desires to dispose of his business, it is worth only the amount which the prospective purchaser is willing to pay. In looking over one hundred "practices for sale" in the *American Medical Association Journal*, I find that the average purchase price asked is \$775.00.

However, with our kind of organization, the asset is a far different matter. If I desired to sell or if my associate desired to sell, or if we both desired to sell, we could turn over a business which would go on practically uninterrupted.

To illustrate: From about the 28th of December, 1912, to September 1, 1913, I was so ill as to be unable to do any work. During

these nine months I was away from Hot Springs practically all of the time, yet, on the 1st of July, 1913, our hospital records showed that we had an even 100 more patients the first six months of 1913 than during the first six months of the same period of 1912. Instead of having a medical business with no asset, we have what might be termed a medical plant worth a considerable sum.

In conclusion, I would say, from my experience, that medical organization based upon the principles here stated can be put into effect with sure returns, and that it is possible for such an organization to be conducted successfully in all parts of the country, in small cities and the suburbs of large cities. It gives one the assurance of an income regardless of whether he is at the grindstone or on his vacation; it places him in the right position as a professional man, instead of as a day-laborer; it gives him prestige in his community as a practitioner of medicine, as a business man and as the owner of a commercial asset; and in the event of his removal or retirement he will have something to dispose of which a possible or probable purchaser would be willing to pay a good sum for, because the earning-capacity of the business would insure him an income and give him an opportunity to pay for the same out of the business which he would secure.

Sterilization and Disinfection

Practical Directions for the General Practitioner

By ARTHUR M. SLEE, Swiftwater, Pennsylvania

Assistant Director of the Slee Laboratories

WITH our increasing knowledge of micro-organisms and the part which they play in our various diseases, we are coming to realize more and more the importance of cleanliness and of sterilization and disinfection. Also the agency of insects in spreading infection is being more widely understood. We now know that malaria is transmitted only by the mosquito, that the dreaded jail-fever, or typhus, gains access to the body only through the bite of the body-louse, that the common house-fly is a busy distributor of typhoid bacilli and of many other pathogenic bacteria. In short, the list of these carriers of infection is growing steadily longer, and the importance of ridding, not only all houses, of them, but all communities as well, may readily be understood.

Let me here emphasize the fact that fresh air, sun-light, and soap-suds are to be num-

bered among the greatest enemies of disease. Not that I would go so far as to say that a thorough airing and scouring is all that is necessary to make a room that has been used, say, by a smallpox patient fit for habitation by another person; but a clean, well-ventilated room to which the sun-light has free access is a very poor place for the development of pathogenic bacteria.

The methods which have been devised in the last quarter of a century for the purpose of destroying these minute organisms are rather numerous, and some of them are extremely complicated. I purpose to outline here only those likely to be of the most practical value to the practicing physician.

Sterilization By Heat

There are four ways in which heat may be used for the purpose of sterilization, and these

are: (1) boiling in an ordinary covered pot; (2) live or flowing steam; (3) steam under pressure; (4) dry hot air. Each in its way is efficacious and practical.

Boiling for from one-half to three-quarters of an hour will kill all nonsporebearing bacteria. Instruments, clothing, and any small articles not injured thereby, as well as drinking-water may be sterilized by this method.

Live or flowing steam is useful in the sterilization of liquids that might be injured by boiling or high pressure, and of dressings, instruments, clothing, and so on, when access can not be had to an autoclave for the use of steam under pressure. It must always be used by the fractional method. That is to say, the articles to be sterilized are submitted to one-half hours' steaming on each of three consecutive days. The reason for this is, that some bacteria, when favorable conditions do not exist for their growth, go into what is known as the spore stage, becoming dormant. While in this state they are very resistant to drying, heat, and chemical disinfectants. Steam not under pressure has not sufficient penetration to kill these spores at a single exposure.

The principle upon which this fractional method is based is, that the interval elapsing between the first and second and the second and third exposures gives the spores still alive an opportunity to develop into vegetative, or growing, forms; when they are easily killed.

In the absence of a regular steam-sterilizer, a wash-boiler may be used as follows: Pour about two inches of water into the boiler, then put in a pan (a piece of board will answer), with two blocks of wood under it so as to raise it above the surface of the water; place the articles to be sterilized in the pan, cover the boiler and turn on the heat.

Steam under pressure is used in the sterilization of dressings, instruments, glassware, clothing, bedding, and so on. Clothing and bedding should never be placed in any kind of a steam-sterilizer in tightly wrapped packages, but should be spread out as much as possible. Pieces of ice placed in the middle of a dense roll of cloth have been found unmelted after thirty minutes' exposure to fifteen pounds steam pressure. So, it may be seen that a thorough sterilization is not effected under such conditions.

An autoclave possesses the advantage of being suited to use either with or without pressure. When it is desired to use simply flowing steam, leave the exhaust-cock in the chamber open and regulate the heat so that

a small jet of steam escapes continuously through the opening.

A very useful and inexpensive little autoclave is being made by the Northwestern Iron Works at Eau Claire, Wisconsin; a contrivance that originally was designed for canning fruit in the home, being simply a small pressure-boiler fitted with a safety-valve and pressure-gauge. The pressure in it may safely be run up to twenty-five pounds. The writer has used one in his laboratory work for over a year with perfect satisfaction.

Rules for Operating an Autoclave

The following is a good rule to adhere to when operating an autoclave.

Place the articles in the chamber, fasten the cover securely, then light the burners. Leave the exhaust-cock in the chamber open till steam begins to escape from it—this allows all cold air to escape from the chamber. When the pressure-gauge registers the desired degree, the pressure should be kept stationary at that point for half an hour; from fifteen to twenty pounds steam pressure completing sterilization in that period. The time being up, open the exhaust-cock; or else the pressure may be allowed to go down without opening this valve at all.

When the gauge registers 0, remove the cover. If the cover is allowed to remain on after the pressure has subsided, the gasket often will stick and considerable difficulty may be experienced in removing it at all. Also, when the autoclave is opened at once, the contained articles will dry off rapidly. This is a good point to keep in mind when sterilizing dressings and clothing.

The most satisfactory heat to use with all sterilizers is gas, for it can be regulated most easily and at the same time is more economical than other methods. Very good burners are now being made for heating with gasolin, these being useful in communities where there is no regular gas supply.

Dry hot air is used for glassware and some few instruments; although, if the temperature is carefully watched and not allowed to exceed 150° C., it also may be employed for sterilizing dressings, and so on. (A temperature above 150° C. will scorch cloth and paper.) The temperature indicated, if maintained for one hour, will kill all bacteria, both in the vegetative and the spore forms. Occasionally bacteria are encountered that apparently are not affected by this temperature; but this only rarely, and they are, as a rule, non-pathogenic.

There are several very good makes of dry-

air sterilizers on the market at present, but the writer has found that the tin bake-ovens, made for use with oil- or gas-stoves give very good results, and they present the attraction of costing considerably less than the regular sterilizing-ovens.

When sterilizing glassware, the oven should always be heated up slowly and then allowed to cool down before the door is opened, otherwise the glass may crack by the sudden chilling. It should also be borne in mind that instruments with rubber handles—or, in fact, any substance melted or ignited by a high temperature—must never be placed in the hot-air oven. Rubber tubing and gloves may safely be disinfected only by boiling or autoclaving; but even so they will not withstand many exposures.

In an emergency, when access may be had to a kitchen range, small articles and dressings can be sterilized in a covered roasting-pan such as most good housewives have among their kitchen paraphernalia. Simply place the pan in the bake-oven, and beside it a piece of paper as an indicator. Do not remove until the paper appears scorched.

Pasteurization of Milk

It has been found that, because of the chemical changes produced in milk when it is boiled, it is undesirable as food for infants. Yet, it often is well, as a precautionary measure, to rid the milk of a large percentage even if not all of its bacteria. A temperature of 80° C. (176° F.), however, does not produce these detrimental chemical changes, and, yet, will kill a very large percentage of the bacteria within ten minutes. An exposure to 70° C. (158° F.) for a period of fifteen minutes has the same action.

Pasteurization may be carried out in the following manner. Procure a wire basket that will hold the desired number of nursing-bottles. Also get a covered tin pail into which this basket and bottles will fit, with about two inches to spare as to height. Punch several holes in the cover. Pour about two inches of water into the pail and bring to a boil, then put in the basket containing the nursing-bottles filled with milk, but not corked. Boil for ten minutes, then cork the bottles and boil for fifteen minutes more. Do not allow the bottles to come in contact with the water, or they will be cracked.

Another method, not quite as safe but which will answer, is, to pour the milk into the inner compartment of a rice-cooker and bring to a temperature of 70° C. for fifteen minutes, or to 80° C. for ten minutes. Pour at once

into sterilized bottles and place in the ice-chest. All bottles, after they have been used, should first be scrubbed with a stiff brush in cold water, then boiled for one-half hour.

As stated above, milk treated in this manner will be found to be practically sterile and will have experienced little or no change in its chemical composition. The sooner it is pasteurized after milking, the better; and it may safely be used twenty-four hours after pasteurization, but no later.

Drinking-water may be sterilized by boiling or by filtering through a Berkefeld or Pasteur clay filter.

Chemical Disinfectants

Probably the most widely used among chemical disinfectants is a 5-percent solution of carbolic acid in water. An exposure to this solution of one-half to two hours is sufficient to kill most nonsporebearing bacteria. It is by far the most satisfactory disinfectant to use, as it retains its potency for an indefinite period, is quite uniform in its action, does not corrode metals, and is but slightly irritating to the skin.

Bichloride of mercury in a solution of 1 : 1000 follows phenol in popularity. This solution may be made up with sufficient accuracy by adding 60 grains of corrosive sublimate and 2 tablespoonfuls of sodium chloride to one gallon of hot water. This solution is less irritating to the skin than carbolic acid but does not retain its potency for any great length of time. On account of its corrosive action it must not be kept in metal containers.

Trikresol is a very powerful disinfectant, being about three times as strong a bactericide as carbolic acid. In a 4- or 5-percent solution, however, it is very irritating to the skin. Since it does not combine readily with water, it must be shaken thoroughly before being used.

Formalin in a 1 : 10 solution is about equal in strength to the carbolic-acid solution mentioned.

Milk of lime may be prepared by adding 1 part of freshly water-slaked lime to 4 or 5 parts of water. (Air-slaked lime is worthless as a disinfectant, having become carbonated.) This makes an efficient solution with which to scrub walls, floors, furniture, and so on; it may also be used to flush out drains.

Soft-soap suds to which some washing-soda has been added, applied hot with a stiff brush, makes a splendid cleaning solution. The soda alone may be used, if desired. Add 2 1-2 ounces of soda to one gallon of hot

water; or it may be made still stronger, if care is taken that it does not come in contact with the hands. These solutions have a moderate bactericidal power.

Most of the above-mentioned disinfectants are extremely poisonous if taken internally, especially the first three. The antidote for poisoning and burns both with carbolic acid and with trikresol is alcohol. There is no antidote for bichloride of mercury poisoning.

Method of Procedure With Contagious Cases

The room in which a person suffering from a contagious disease is confined should contain only those articles of furniture essential to the comfort and welfare of the patient. Rugs, hangings, clothing, and all superfluous furniture should be removed at once, if practicable. Even if the patient has occupied the room for only a few hours it is wise that these articles be disinfected immediately upon their removal. The sick-room should be well aired and sun-light freely admitted. If a window can be left open constantly, so much the better.

Hands of attendants, must be disinfected before they leave the sick-room. For this purpose, they may be washed in a solution of carbolic acid or of mercury bichloride, then with warm water and soap, and again rinsed in one of the parasiticide solutions. If the 5-percent strength of carbolic acid proves irritating to the skin, it may be reduced by one-half.

Bedding and soiled linen is soaked for one-half hour in carbolized water before it is taken from the room, after which it is boiled. Mattresses, because of their denseness, are very difficult to disinfect; so it is wise, as a rule, to destroy them by fire; especially if they have become soiled with the discharges of the patient.

Dishes, knives, forks, and the like should be set aside for the exclusive use of the patient. After each meal these are washed in carbolized water, boiled in soda or soap-suds, and then rinsed in clean water. Portions of meals not eaten should be burned.

Discharges from the patient must be treated with great care. This applies particularly to cases of typhoid fever, cholera, tuberculosis, and diphtheria. A special vessel should be kept to receive these discharges, and when practical they should be destroyed at once by fire. Otherwise place in the vessel about twice as much carbolic acid or milk of lime as the dejecta and stir, to break up all masses. After this has stood for not less than one-half

hour, pour it down the water-closet, or bury it, if in the country.

Water-closets and sinks used by the patient or receiving discharges from him must be flushed with large quantities of water, and one of the disinfecting solutions should be poured in daily. The floors and walls around them may be scrubbed with hot soda solution or soap-suds.

Disinfecting of rooms is accomplished by means of one of two gases, that is, either sulphur dioxide or formaldehyde. The latter has been found to be the more satisfactory.

Sulphur dioxide can be generated in a room by placing 4 or 5 pounds of commercial sulphur, broken into small pieces, in a flat pan and pouring over it about 4 ounces of alcohol. This pan should be placed in another, larger, one containing water. All cracks in the room having been sealed, ignite the alcohol with a match, and, after leaving the room, seal cracks around the exit door. Leave the room thus exposed to the fumes for eight to twelve hours. This will kill all life, insect as well as bacterial. However, the fumes injure some materials, so the use of sulphur in many instances is undesirable.

Formalin has largely superseded sulphur for fumigating, being more penetrating, while not injurious to hangings and pictures. A number of methods have been devised for liberating the latter gas, but I will outline here only a few of the most easily applied and practical ones.

As for sulphur, all cracks in the room must be sealed up, and the temperature should be at least 16° C. (61° F.), with 60 percent or more humidity. Formaldehyde (as also sulphur) gives the best results when used in a warm damp atmosphere. Sprinkling the walls and floor with water assists greatly in the germicidal action.

A small alcohol-lamp has been invented for heating the solid polymer of formalin-trioxymethylene. This is put up in small pastiles, 100 of which are used for every 1000 cubic feet. This apparatus is small and compact, besides being surprisingly inexpensive. It is known as the Schering system, and the New York Department of Health reports very good results obtained with its use.

Wilson has used a simple method. He places the formalin, 12 ounces for every 1000 cubic feet, in a tin pan and heats this with an alcohol-lamp or with alcohol-soaked asbestos contained in a tin can.

Pouring formalin over crystalline potassium permanganate has been found quite satisfactory; the proportions being 16 ounces of

formalin and 6 3-4 ounces of the permanganate for every 1000 cubic feet. The vessel containing this should be enclosed in some non-conductive substance, to retain the heat; but the top is left uncovered, of course.

A very simple method is, to hang sheets in the room and throw upon them 12 ounces of formalin for every 1000 cubic feet, extending the exposure for ten hours. This will not penetrate dense fabrics, but will disinfect the surfaces of walls, floors, furniture, and all other exposed surfaces.

Method of Infection and Disease Transmission

Diphtheria bacilli enter the body through the mouth or nose. They may be suspended in the air or adhere to toys, cups, and so on, previously used by an infected person. They are transmitted from person to person by kissing and close contact or by one person coughing toward the face of another.

In diseases where the site of infection is in the mouth or some part of the respiratory system, there is great danger of droplet infection. When a person coughs, minute drops of saliva are expelled from his mouth; and this more often than otherwise contains the germs of disease. These droplets may float about in the air currents for hours, and the danger from them may readily be seen. Discharges from mouth and nose should be disinfected as described above.

Prophylaxis: Give to all persons in the household 1000 units of diphtheria antitoxin.

Typhoid and cholera organisms gain access to the stomach and intestines by way of the mouth. They may be transmitted from person to person the same as those of diphtheria, though not so readily. The urine, feces, and vomitus of these patients are infectious.

Prophylaxis: In typhoid infection, give typhoid vaccine. During the prevalence of epidemics, either disease may be spread by food, water, and milk. No uncooked food should be eaten. (This applies to vegetables as well as to all other food.) Milk should be pasteurized and all water boiled or filtered.

Tuberculosis. Bacilli enter the body through mouth and nose. Infection may occur through wounds. The disease is transmitted the same as diphtheria, and there is great danger from droplet infection. The sputum is highly infectious, and the urine and feces should be treated with suspicion.

Typhus is transmitted only by the bite of the body-louse, transmission from person to person being unknown. Prophylaxis can be accomplished only by a thorough cleaning up of the premises and of the persons found

there. Get rid of the lice, and there is no danger of further infection.

Tetanus in the true sense of the word is not contagious. The bacilli are dangerous only when introduced into a wound. It is only necessary to disinfect such articles as may have come in contact with discharges from the wound, and the room need not be fumigated. It must be borne in mind that in the case of tetanus you are dealing with a spore-bearing bacterium that possesses a great resistance to chemicals and heat.

Prophylaxis in all cases of gunshot and puncture wounds, crushing fractures, contusions, and wounds soiled by earth or street dirt, give 1500 units tetanus antitoxin *at once*.

Smallpox is one of the most contagious diseases known, the virus being the material through which it is transmitted. It is dangerous for an unvaccinated person to enter a house even in which there is a smallpox patient. The virus is thrown off from the body and is carried about by the air currents for a considerable period of time. Infection has been known to take place many yards away from a smallpox hospital. During convalescence, the scabs from the pustules are infectious.

Prophylaxis: Thorough inoculation with smallpox vaccine of all unvaccinated persons.

Scarlet-fever and measles are transmitted in a manner similar to that of smallpox, the virus being carried about in the air currents. Discharges from mouth and nose as well as all peelings of the skin are infectious.

Prophylaxis may be obtained only by the rigid isolation of all cases, and a thorough disinfection of all rooms occupied by them and of all clothing, and so on.

It is well to observe the following rules in all cases of contagious disease.

Physicians and attendants, while in the sick-room, should wear long gowns and caps that may be discarded before they leave, and these should be disinfected before they are conveyed from the room. When this is not done, there is great danger, on the part of the attendant, of playing the part of an intermediate conveyor, and carrying the infection to some other person.

Caution the patient to be careful while coughing and expectorating. Paper napkins or pieces of cheese-cloth should be placed within easy reach to receive such discharges, and these should be destroyed by fire after being used.

Avoid stirring up any dust in the sick-room, as in all probability it harbors the organisms of the disease from which the patient is suffering. When cleaning is necessary, it should be done by washing or scrubbing.

The Conflict of Conscience

II. The Cause

By CHARLES GILBERT DAVIS, M. D., Chicago, Illinois

EDITORIAL NOTE.—In this address, which was delivered at the last meeting of the Tri-State Medical Society, held in Hannibal, Missouri, Doctor Davis discusses certain vital emotional factors in disease. The investigations of Freud and Jung have intensified their interest and this paper points out the line of duty for the physician. It will be continued in the next issue of "Clinical Medicine."

Whatsoever creed be taught or land be trod,
Man's conscience is the oracle of God.

—Byron.

IT IS self-evident that man, by intuition and also by education, has a monitor called conscience. It may be termed the governor of his moral mechanism.

When this conscience is in harmony with the rest of the vital machinery all goes well. But vitiate it or remove it, and revolution, destruction, and anarchy reign supreme.

From the throne of conscience emanate the decisions or edicts that make or mar human destiny. When there is no discord, when the sky is clear and obedience is unquestioned, life is a beautiful stream, for there is no fear. The functions of the body work normally, and happiness and health reign supreme. But when there is disobedience, then comes destructive fear. Shakespeare has well said, "Our conscience does make cowards of us all."

The coward is afraid, and fear destroys life. Acting through the sympathetic nervous system, this depressing emotion, as we have seen from scientific experiments, disturbs the functions of the internally secreting glands and lays the foundation for all manner of destructive action.

It may really be said that man rises or falls according to the specific gravity of his thought.

When buoyant, care-free, fearless, health-giving emotions sweep through the soul, the glands are stimulated through the sympathetic nervous system and pour their secretions in normal quantities into the blood currents, lifting the body, mind, and spirit to the acme of human power. This is normal, healthful life.

Practically all the fear that burdens humanity arises directly or indirectly from a violation of conscience. It may be real or imaginary, acquired or hereditary. Thousands of cases of diseased bodies and minds in childhood undoubtedly have their origin in a fear-stricken ancestry.

No stratum of mankind is free from the pangs of conscience. Of course, the standard

of right and wrong changes according to education and training, but it is always there to approve or inflict pain and punishment.

Among some of the western Indian tribes, I am told that when in battle the warrior who unhorses his enemy and, yet, retreats without giving the *coup de grace*, by taking the scalp, is forever disgraced. He is conscience-stricken, refuses to eat, wanders alone, and often sickens and dies. All this, because he thinks he has offended his Manitou. Yet, this same warrior, without remorse, would lash his prisoner to the stake, light the fire, and see him writhe in agony and death, without experiencing a pang of conscience.

But, as man has advanced in culture and education, his sensibility has increased, till his standard of right and wrong is like the most delicate scale, vibrating to the slightest breath. It is this increased sensibility—we might say, often this morbid sensibility—that is forever warning man when he offends the moral law; and it is the struggle he makes to free himself that today is sapping the vitality of mankind.

This is the warfare of modern life and, as the years pass, it grows more acute. A house divided against itself can not stand. The proof of this is the vast army of human wrecks that we meet every hour of the day. Everywhere the conflict of conscience rages.

To an observer, it is evident that there is something lacking in the mechanism of the lives we lead. We are forced to confess that much of our civilization does not civilize.

Society has held us in with a set of rules said to be for our betterment and for the improvement of the race; but against these laws, rules, and regulations our desires often rebel. From infancy to old age, we are continually engaged in repression of these race-instincts, and in this repression there often occur those accidents that react to the point of destruction. There is a happy medium that we must be brought to observe.

Every tramp on the highway is a fair illustration of an arrested dementia præcox, of one who has submerged his morbid complex as he wanders and forgets.

The business man who punctually waits upon the functions of the church, but lets the greed of mammon govern him in his commercial transactions in leading this double life, feels the grinding of these wheels of conscience, and he is afraid. And often this fear stimulates the suprarenal glands—he has arteriosclerosis—and the doctor says he died of Bright's disease. But not so: it was his conscience.

We struggle to bury our fears from the eyes of the multitude; but these buried emotions are, often, years afterward the creators of many of the neuroses and psychoneuroses.

There are thousands of such cases of hysteria, psychasthenia, neurasthenia, and other disturbances of nutrition manifested in various forms of chronic disease. Your sins, if not blotted out, will find you out. These buried fears are, many times, the offspring of otherwise inexplicable mannerisms and eccentricities of life. Many a jocund exterior of rollicking wit and humor that has convulsed the world has been born of springs that take their source from the deep hidden wells of sorrow.

When the conflict rages, the nobler part would be to rouse the higher ideals of life, banish the desire and stand victor on the field of conflict. This would yield, ultimately, health, happiness, and life.

But, alas! how often the man hesitates, and search is made for some compromise; and, so, the house stands divided against itself. He keeps his errors as well as his good resolutions, but endeavors to conceal the one from the other. But, in the ultimate he suffers, wrecks his manhood, and leads a Jekyll-and-Hyde existence.

This method is never successful. The conflict may continue for years, and often in the agony of the struggle the man seeks relief by bridging over the chasm between his conscience and his conduct through a resort to the use of tobacco, alcohol, or other drug. In these stupefying substances he finds momentary calm from the awful internal conflict; ultimately, though, at the expense of mental and physical integrity.

Every dipsomaniac has a vice or a crime to conceal, and the fear of his being discovered drives him to the anesthesia of alcohol. There is no doubt in my mind but that the present world-wide consumption of alcohol and tobacco arises from the application of these poisons in quieting the nervous strain arising from this conflict of conscience portrayed. The removal of fear from the world

will automatically solve the problem of intemperance.

In order to escape from the stress of conflict, the morbid complex or mental attitude may be so completely divorced from the personal of the patient that it may pass beyond the control of normal consciousness, and may then be said to have become dissociated.

From this condition may arise many of the obsessions, phobias, and instances of somnambulism and multiple personalities. In fact, here we may find the combination, the mechanism that develops the various forms of insanity and also numerous manifestations of chronic disease or crime that always have been beyond the pale of lucid explanation.

Lady Macbeth in her somnambulist walk after the murder, struggling to free herself from her sin, exclaims: "Out damned spot; out, I say!"

Many prejudices, apparently without reasonable existence, upon deep sounding of the inner consciousness are found to spring from a *vera causa* that has been hidden away in one of the locked and bolted chambers of the memory, in an endeavor to conceal it from the scrutiny of conscience.

In the tumultuous warfare of the human soul, we find involved the great primary instincts, self-preservation, nutrition, and sex. Any of these may be pitted one against the other, or, what is more frequently the case, we find the primal instinct at war with that environmental code of behavior that has been developed through the gregarious life of the race.

Trotter¹⁶ has well denominated this phenomenon the "herd-instinct." It is this conflict between the primal instincts and the social instincts that has diminished man's physical, mental, and moral resistance.

Owing to the lessened resistance to bacterial invasions, all forms of suppurative diseases, together with tuberculosis, vice, crime, and insanity, are on the increase. As I have stated previously, the great disturbing element in this deteriorating process is this conflict of conscience, which, giving rise to the emotion of fear, acts upon the glands with internal secretions and thus poisons the life current; this, in turn, producing a morbid metabolism, which ultimately cripples or destroys the life-functions.

It is fear from the cradle to the grave that, lessening our vitality, destroying our happiness, retarding human progress, changes this world from a paradise into a veritable inferno.

(To be continued)

What Others are Doing



STRONTIUM IN DEFECTIVE OSSIFICATION

Investigations go to prove, according to F. Lenhardt, Halle (*Zeitsch. f. d. Ges. Exp. Med.*, 1913, p. 175), that strontium may take the place, in a measure, of calcium, when this is deficient for bone formation in growing animals; although it cannot supply the insoluble structure. Strontium, thus, is indicated in osteoporosis, osteosarthyrosis, and in defective formation of callus. The author cites one case of the latter kind where this agent gave excellent results.

READ THE PARIS MEDICAL

We strongly urge every one of our readers who is familiar with French to secure the special therapeutic number of the *Paris Médical* of November 1, 1913. This issue contains a large amount of material which is intensely interesting, and so much of it is so distinctly alkaloidal in character that we almost felt tempted to call it an "alkaloidal issue." As especially noteworthy, we call attention to Professor Carnot's splendid review of the therapeutics of 1913; also to Professor Pic's paper upon the diuretics; Professor Dopfer's article upon the treatment of dysentery with the salts of emetine; Professor Mathieu's paper upon the atropine in gastrointestinal therapy; and Metzger's article upon the employment of hypophysial extracts.

In our opinion, the *Paris Médical* is the best medical journal published in France—and one of the best published in any country. The subscription price of this weekly is 15 francs (\$3.00) a year; the charge for this special number being 50 centimes (10 cents). The publishers are Ballière et Fils, 19 Rue Hautefeuille, Paris.

DEATH FOLLOWING ADMINISTRATION OF CAMPHOR

While the parenteral administration of camphor is gaining favor, W. Ruebsamen (*Zent.-Bl. f. Gyn.*; through *Muench. Med. Woch.*, 1912, p. 1872) cautions against its

indiscriminate use; he having had one case ending fatally. After a laparotomy in a woman, the doctor poured 170 Cc. of sterile 10-percent camphorated oil into the abdominal cavity, as a prophylactic measure against peritonitis. The patient died, in collapse, on the third day. (Abduction demonstrated complete asepsis.)

The explanation advanced is, that ventrally the camphor is resorbed more rapidly than when injected subcutaneously or intravenously. The author advises employment of a 1-percent oil solution, in place of the stronger camphorated oil.

POISONING FROM BORIC ACID

Pointing out that boric acid is not an altogether harmless medicament, and that four deaths are charged to it in literature, J. H. Sanders tells (*Brit. Med. Jour.*, March 16, 1912) of a mishap in his own practice. In a case of obstinate dysentery, he had treated the man for several weeks with boric-acid irrigations, when grave symptoms of poisoning became apparent. There appeared a hemorrhagic exanthem (in spots), more largely over the face and the inner aspects of the limbs, together with threatening cardiac weakness and spells of delirium. After the omission of the boric treatment, the symptoms disappeared, although only very slowly; the patient eventually recovering entirely. The moral is plain.

VERONAL POISONING

Veronal poisoning is not infrequent in England. Thus, the official reports show that between the years 1906 and 1910 inclusive there were 34 deaths from this cause in England and Wales. Since 1910, a number of deaths have been reported, although the statistics are not collated by W. H. Willcox, who discusses the topic in *The Lancet* for October 25, 1913 (p. 1178).

Doctor Willcox declares that cases of death have been recorded after doses of veronal as small as 10 grains, and that in a healthy adult it may be assumed that a dose of 50 grains

is dangerous; in fact, this may be regarded as an average minimum fatal dose.

Toxic symptoms following the administration of veronal are drowsiness, headache, and a reeling gait. The patient falls into deep sleep, from which he can be aroused only with difficulty; while in other cases this drowsiness deepens into coma, the patient becomes cyanosed, and respiration is rapid and stertorous. At this stage, a marked rise of temperature is common, and a physical examination of the lungs will probably show areas of dullness, vocal resonance, bronchial breathing and moist sounds; in other words, all the clinical signs of pneumonia will be present. These signs will be accompanied or followed by those of general edema of the lungs, such as moist bubbling râles all over. It is easy for a severe case of veronal poisoning to be taken for one of pneumonia.

The treatment is as follows: Empty the stomach with the tube if the patient is seen within four hours after taking the drug. Wash out thoroughly with two pints of warm water, and before withdrawing the tube introduce a pint of hot strong coffee, with some milk in it, and an ounce of castor oil. Cardiac stimulants should be given, such as strychnine hydrochloride, 1-30 grain, with digitalin, 1-100 grain. Warm normal saline should be given subcutaneously, also rectal injections of normal saline containing 4 percent of glucose—15 ounces of this mixture every four hours.

If there is much cyanosis, give inhalations of oxygen; if the pulse is feeble, the oxygen may be passed through a wash-bottle containing absolute alcohol, the latter acting as a valuable cardiac stimulant. Watch the bladder, and draw the urine with the catheter, if necessary.

INFLUENCE OF IRON UPON THE BLOOD

Systematic testing of the blood of anemic and chlorotic patients by the hematocrit method have shown that, under an iron therapy (Blaud's pills, chalybeate springs), the first effect is an absolute increase of the erythrocytes. However, augmentation of the hematin is not parallel; rather does this result occur only after the number of erythrocytes has been very greatly multiplied. R. Schmincke, who makes this report in the *Munchener Medizinische Wochenschrift* (1913, p. 1199), draws from this fact the conclusion that it supports the theory that iron preparations cause an excitation of the hematogenic organs, and that then, later, these newly

formed blood-cells experience an increase of their hematin.

STRYCHNINE IN INTENSIVE DOSAGE

According to the experience of a number of recent investigators, quoted by Carnot in his therapeutic review (*Paris Médical*, Nov. 1, p. 486), strychnine as ordinarily employed is given in insufficient dosage. According to Hartenberg and others, we are unnecessarily afraid of its toxic action, but we must know how to use it correctly.

Only in full dosage is strychnine capable of producing marked therapeutic results. Thus, for instance, Troisfontaines gives it in doses of 2 to 4 centigrams (1-3 to 2-3 grains) daily, without ever having observed a single serious accident. Hartenberg declares that the usual 1- to 2-milligram (1-64 to 1-32 grain) doses [thrice daily?—Ed.] are entirely insufficient. He depends upon a certain physiologic reaction to determine the maximum efficient dose. This reaction is as follows: a sense of slight drunkenness; sometimes a little vertigo; possibly stiffness of the jaws and sometimes of the limbs.

Hartenberg further asserts that strychnine should be given in progressively increasing doses, on account of the rapid increase of toleration. He prefers the sulphate, and gives it hypodermically. The therapeutic reaction just described follows within a quarter of an hour after the injection and lasts for one-half to one hour. This is no inconvenience and does not prevent the patient from going about his business; on the contrary, it produces a decided sense of euphoria. To elicit this reaction, from 5 to 6 milligrams (5-6 to 1 grain) is required in women, and from 6 to 7 milligrams (1 to 1 1-6 grain) in men.

The indications for this method of intensive medication with strychnine are as follows:

1. In neurasthenia, its action appears to be almost specific: "Strychnine is to asthenia what morphine is to pain." In this condition, its results often are obtained with truly astonishing rapidity.

2. Strychnine appears to favor muscular tone and nerve regeneration in affections of the medulla and in neuritis. Mendelssohn and Hartenberg assert that they often have observed reduction of ataxia and improvement of the general condition. The same is true in certain amyotrophic paralyses.

3. In impaired nutrition and general cachexia, strychnine in large doses increases the tone of the different viscera.

To these three indications, Carnot says, we should add the various deliriums with agitation, especially delirium tremens. In the latter condition, the use of strychnine sulphate in large and increasing dosage is declared to be superior to all other methods of treatment.

HYPOTENSION HEADACHE: NATURE AND TREATMENT

To the *Presse Medicale*, Doctor Martinet contributes an interesting article upon the headache of hypotension. (See *Revue Therapeutique des Alcaloides*, Oct., 1913, p. 3101.) These patients, he says, are nearly always women, and suffer greatly from headache exhibiting the following characteristics: The pain inevitably begins with the occiput and is always most severe in that locality, and only secondarily is it referred to the parietal region.

The patients declare that this pain constitutes a sort of continuous tension, a sensation of weight or of severe constriction. From the moment in which it appears it is constant, but it is most severe when the patient is in the horizontal position. It diminishes and may even disappear when the vertical position is maintained. Upon lying down it increases in severity; it is most marked in the morning when the subject awakens.

In certain women this pain is intolerable, and even may produce a most exhausting insomnia. Occasionally the patients are relieved when they lie on the stomach. There are some who only can sleep when in this position.

The two most important characteristics of this form of headache are its location in the occiput and its exaggeration in the horizontal position. However, the following points are of considerable importance: The headache is not increased during digestion, and even may be less severe after eating; neither is it influenced by season, the patients suffering from it as much in the winter as in the summer. It is obstinate, rebellious, and may last for months, even for years.

There are certain patients who are never entirely free from it, who always experience a more or less severe sensation of weight upon the occiput. This type of headache is not accompanied by fever, digestive trouble, or vomiting. As a rule it is not influenced by the ordinary treatment with coal-tar analgesics, including aspirin, or by purgatives, or other customary medication.

In all these patients, there is a very pro-

nounced reduction of vascular tension, accompanied by diminution of the cardiac impulse. These patients have small arteries, small aortas, and small hearts, and their arterial tension is low. Very frequently there is venous stasis, and there may be, during the vertical position, some edema of the lower limbs.

The conclusion is, that, as regards etiology, these patients suffer from a meningoencephalic venous stasis, located principally in the cerebral sinuses and their affluents.

The therapeutic indications clearly are, to withdraw the blood toward the lower extremities and to increase as much as possible the tone of the cerebral circulation. From time to time the patient should be placed upon vascular tonic medication, as, for instance, strychnine, digitalis, sparteine or other remedies of this class. The patient should receive strychnine, 3 or 4 milligrams (1-20 to 1-15 grain) daily, for three or four weeks, together with digitalin, in 1-to-2-milligram doses, as required, for weekly periods. Galvanization also is suggested.

To improve the circulatory tone, Martinet advises hot baths, followed by alcohol rubs, massage, Swedish gymnastics, mechanotherapy of the lower limbs, and carefully supervised walking.

REMOVAL OF HARDENED WAX FROM THE EAR

An inquirer having requested, through *The British Medical Journal*, for a better solvent for hard ear-wax than warm oil, the editor of *The Pharmaceutical Journal* (Oct. 25, 1913, p. 608) has collected and published the various methods suggested, as follows:

1. Equal parts of solution of hydrogen dioxide and glycerin, instilled morning and evening for three days; then gentle syringing.

2. Instillation of hydrogen dioxide (10-vol.), left in the ear for about ten minutes before syringing.

3. Glycerin, 1 fluid dram, with saturated (or nearly saturated) solution of sodium bicarbonate, 7 fluid drams, dropped into the ear six to ten times a day for two days. It is also a good plan to place a piece of absorbent cotton wool with the above solution in the meatus, to retain the liquid. A very ancient wax plug may require a second course of treatment after the removal of the outer part by the first syringing, for which a hot solution of sodium bicarbonate is used.

4. A mixture of ether, 1, and olive oil, 3, is claimed to be invariably efficient in soften-

ing wax, however hard, in the ear; sufficiently so to allow of its being easily syringed out by soapy water if the latter is used as hot as the ear can bear. The temperature is important. The etherized oil should be dropped in the night before, and also on the morning when the syringing is to be done.

5. A saturated solution of sodium bicarbonate mixed with an equal part of glycerin.

6. Hot water, since ear-wax melts or becomes soft at 100° F. Syringing with water at 105° F., which the external ear can bear comfortably, will materially hasten the removal of all natural plugs. It is necessary to use a thermometer.

7. Two or three drops of ether, instilled in the canal for two minutes, will usually have the desired effect. It must first be ascertained, however, that the plug fills the meatus, as, should the ether reach the membrana tympani, it causes great pain.

ANTITYPHOID VACCINATION IN THE ENGLISH ARMY

Sir John P. Hewett, in an interesting address upon the work of the medical profession in India, quoted in *The Lancet* for October 4, 1913 (p. 983), gave the following striking instance of the value of antityphoid vaccination in the British Indian army:

In 1912, out of 693 men serving in four batteries of artillery stationed in India, in the provinces of Agra and Oudh, and of which he was lieutenant-governor, 687 were protected by inoculation. In that year there occurred 2 cases of typhoid fever among the 6 unprotected men, but only one case among the 687 who had been vaccinated.

An officer in one of these batteries wrote Sir John recently that all of his men had been inoculated since some years ago, and added: "I have never lost a man since, nor have I had a case of enteric fever, that I can remember, until this year. When I remember the number we used to lose in a battery each year, I am astounded at Sir Almroth Wright's genius."

A NEW USE FOR CALCIUM SULPHIDE

After recording the many diseases and disease-conditions in which calcium sulphide has been used successfully, Pigeaud, in *La Dosimetrie* (Oct. 19, 1913, p. 150), suggests its employment in the treatment of epilepsy, either alone or in combination with the bromides, among which he considers the monobromated camphor one of the best.

Besides the action of the sulphurous-acid factor of this remedy in combating infectious microorganisms, promoting a healthy condition of the mucous membranes and reducing excessive blood pressure, the author quotes Netter as pointing out that in conditions of nervous excitation the free calcium ions are necessary for the proper functioning of the cellular elements. In such conditions, it is wise to reduce the proportion of sodium and to increase the percentage of calcium in the body.

Epilepsy being a condition in which the phenomenon of excitation predominates, the author believes that the indications are clear for the administration of calcium. Calcium sulphide is especially indicated, because every case of epilepsy presents also a condition of intoxication, and this remedy serves to increase the elimination of the toxins and to lessen their production.

To put the matter in a few words, Pigeaud believes that calcium sulphide has a three-fold application in epilepsy: first, elimination of the toxins; second, reduction of vascular pressure; and, third, sedation of the nervous system. It should be used in connection with monobromated camphor and the dosimetric trinity.

CALCIUM SULPHIDE IN THE TREATMENT OF SUPPURATING BURNED SURFACES

J. Culbertson (*Thera. Record*, Oct., 1913, p. 300) reports an interesting experience with a patient who, following a severe burn, treated in the classical manner with carron oil, developed (in spite of extreme care in the hospital treatment) great pus formation over the burned area, which included the entire left arm, from the shoulder to the metacarpo-phalangeal articulation. A proprietary ointment was applied, which only seemed to increase the trouble. Then an attempt was made to apply some grafts to the skin, but, in spite of all precautions, the pus infection continued and all the grafts sloughed off except one.

Finally, in despair, Doctor Culbertson placed the patient upon calcium sulphide, giving a grain every three hours. At the end of a week, purulency had subsided to a considerable extent and the offensive odor had largely disappeared. Thereupon grafts were applied again, the same technic being employed. Twelve grafts were taken from three different arms, and all of these "took." Calcium sulphide was continued for some

days later, and another area was grafted with skin, with equally good success. At the time of writing the burned area was closing in rapidly with new skin.

INGROWING TOE-NAIL

According to Liesching, in *The British Medical Journal* for September 20, 1913 (p. 740), good results in the treatment of ingrowing toe-nail may be obtained by dusting the affected part with a little powdered lead nitrate, after careful cleansing. A white scab forms, which must be removed on the following day, otherwise pus is liable to collect underneath; the dusting being then repeated. The same treatment is followed from day to day as long as necessary. Liesching has been using this method for many years, with satisfactory results.

SHALL WE OPERATE UPON DIABETICS

Some years ago we had a rather spirited discussion with one of our contributors, who contended that surgical operations upon diabetics almost always resulted fatally. Last month we published the picture of a physician, a reader of this journal and a diabetic, who had had first one thigh amputated, and then the other, after he had passed his eightieth year.

Now, in the November, 1913, number of *The Interstate Medical Journal* (p. 1069), we find an interesting review of the literature upon this topic by M. G. Seelig. On the one hand, Dr. Seelig quotes Sternberg as saying, "Any necessary operation may be performed with safety on a diabetic;" and then he gives the counterstatement made by Lepine, that "Every operation is contraindicated in a diabetic."

With such diversity of opinion, the average physician finds it difficult to arrive at a safe judgment. However, as Doctor Seelig says, surgical operation by no means is contraindicated upon diabetic patients; indeed, Murphy, Joslin, Miller, and Manges have published case-histories of diabetics operated upon for inflamed gall-bladders, hypertrophied prostate gland, and uterine fibromata, with the result that a pronounced improvement or cure of the diabetes resulted; in other words, surgical operation may be a distinct means of favorably modifying the disease itself.

However, as Doctor Seelig points out, there are certain principles which should

govern us in advising the physician regarding surgical intervention.

The first principle is, that the result depends upon the severity of the disease. Diabetics, whatever the degree of severity, are naturally poor operative risks, but the milder the type, the greater the degree of safety.

The second principle is, that wound healing is profoundly influenced by diabetes. However, we now know that phlegmon and gangrene, the complications so greatly to be feared, depend upon infection. If every link in the aseptic chain is preserved absolutely intact, then wounds in diabetics may heal as quickly as they do in the normal individual. The moral is, that, in operating upon these patients, with tissues compromised as a result of faulty metabolism, the utmost care is necessary for the maintenance of asepsis.

The third general principle is, that not only the special tissues operated upon are compromised, but also that the organism as a whole is weakened in a diabetic patient. Such complications as endoarteritis, arteriosclerosis, and myocarditis must necessarily profoundly influence the result.

Doctor Seelig concludes from this investigation that, in the present state of our knowledge, our judgment regarding operative interference must be governed by the degree of symptomatic imperativeness with which the operation is demanded, by the severity of the diabetes, and by the general condition of the patient.

THE ACTION OF ARBUTIN

A writer in the *Revue Therapeutique des Alcaloides* (Oct., 1913, p. 3083) says that, as a result of decomposition of arbutin in the urinary tract into hydroquinone, it possesses decided antiseptic, antiputrid, and antizymotic properties, and at the same time is a valuable diuretic. Since elimination takes place through the urine, it acts most powerfully upon the kidneys and bladder.

Arbutin is declared to have a special and nearly specific tonic action upon the urinary-tract mucosa, and it is indicated in the treatment of pyelitis, pyelonephritis, acute and chronic catarrh of the bladder, hemorrhagia, incontinence, retention of the urine, and leucorrhea. A number of cases of cures of chronic vesical catarrhs, where there was fetid and ammoniacal urine, were reported.

Arbutin is without harmful action upon the digestive tract, whatever dose may be

administered. Jablonovski has given 20 Grams of arbutin in forty-eight hours, without observing the slightest toxic phenomenon.

DYSENTERIC ABSCESS OF THE LIVER

According to Cade, Thévenot, and Roubier, who have studied two interesting cases of amebic dysentery (see *Arch. d. M. d. l'App. Dig.*, Oct., 1912), the pus of amebic abscesses often is sterile. Frequently the amebæ are not found, and anaerobic bacilli may be present. However, the absence of amebæ is not necessarily of peculiar significance, since these organisms frequently are imbedded in the walls or the recesses of the abscess. They are really difficult to find in the pus itself. These authors also observed that dysentery quite often is associated with tuberculosis. Thus, in the two cases observed, the abscess contained also Koch's bacillus. Usually the abscess is large, and may contain from two to three liters of pus. Alcoholism is spoken of as playing a preponderant role in the etiology.

The principal signs indicating the presence of an amebic abscess of the liver are: rapid and decided development of the size of that organ, determination of a localized tumefaction, and severe pain in the right hypochondrium. These signs being present, the bowel should be examined, with the rectoscope, for the presence of the characteristic dysenteric mucosa. The feces also are to be examined for amebæ, while fecal matter may be inoculated in a cat's rectum.

EMETINE TREATMENT OF DYSENTERY IN CEYLON

The government hospitals of Ceylon have been supplied with emetine, this remedy now being generally used in that country for the treatment of dysentery. *The British Medical Journal* (Sept. 20, 1913, p. 769) inquires whether similar steps will be taken in regard to the official use of this drug in Indian hospitals. The position of emetine as a specific for the treatment of amebic dysentery and amebic hepatitis is now generally regarded as established.

EMETINE IN THE TREATMENT OF AMEBIC LESIONS

Since the introduction of the emetine treatment for amebic infection, Professor Dopter has treated 46 cases of amebic dysen-

tery and 5 cases of amebic abscess, the details of which he promises to publish later. In an extremely interesting paper concerning this remedy printed in the *Paris Medical* (Nov. 1, 1913, p. 499), he describes the technic which he now employs when using emetine.

The injections, Dopter says, are made in the usual manner, under the skin of the thigh or the arm, the hydrochloride of emetine being employed. These injections are entirely painless. However, in some cases the next day and the day following, there is slight swelling and a little redness at the point of introduction. These phenomena are temporary; however, there may remain a slight induration lasting several days. When injections are given for several succeeding days, it is advisable to select a different locality each time.

The first dose should not be less than 4 centigrams (2-3 grain) of emetine hydrochloride, and should be repeated on each succeeding day, until a clinical cure is secured. Some clinicians inject only 2 centigrams (1-6 grain), but in such cases the cure is much more slow. Usually after the first injection, or at the latest after the first two injections, there is a distinct and rapid improvement, first apparent to the patient through disappearance of the colic. A number of these patients, who had suffered from the disease for several years and experienced a constant sense of painful abdominal tension, declared that they "didn't feel their stomach any more."

At the same time the stools change in character. Bloody mucus disappears rapidly, the stools become more pasty in form, and their number falls, from ten to twenty-five or more daily, to only one or two in a day. Further, a daily examination of the stools shows gradual disappearance of the amebæ, and often that cystic transformation which usually is observed when a cure is imminent.

This rapid improvement under emetine is constant, and, while it is most marked in recent cases of only a few months' duration, it was also notable in patients who had suffered from the disease for seven, nine, or even twelve years. Dopter warns not to discontinue the medication too soon. He believes it prudent, in order to avoid recurrences, to continue the injections for several days after apparent cure.

In the treatment of amebic abscess of the liver, Dopter begins with 4 centigrams (2-3 grain) of emetine hydrochloride, but, if the process is a severe one, 8 or even 10 centigrams (1-3 to 1 2-3 grains) may be given

daily. This dose is tolerated without the slightest inconvenience.

Naturally, the entire treatment of liver abscess cannot be summed up in the injection of emetine. Where there is a collection of pus, this must be evacuated. In mild cases, with slight elevation of temperature, when the patient is in good general condition, the abscess may be emptied by means of aspiration.

In more severe cases, in which the condition of the patient is grave or the disease is progressing rapidly and is acute in character, more radical, surgical intervention is necessary; but after the operation daily injections of emetine should be given, as already described for dysentery. Under its influence, the condition of the patient rapidly changes for the better, the pus loses its chocolate color and becomes grayish, the discharge grows less, and usually at the end of six to eight days the dressings become dry and the wound closes.

Rogers advises, in addition to the subcutaneous use of emetine, washing out of the abscess pocket with a very dilute solution of emetine. Dopfer asserts that he has not found this expedient necessary.

When the abscess empties itself spontaneously by way of the bronchi or intestines, he believes that surgical intervention is useless, and in such cases the emetine treatment alone suffices to bring about a cure. In the cases thus far known, reported by Chauffard and Costa, and in two cases which he has recently observed, such a happy result was the final outcome.

THE ANTIHEMORRHAGIC ACTION OF EMETINE

It is well known that one of the remedies most valuable in the treatment of hemoptysis is ipecac, given in nauseant doses. Animals thus treated show, at autopsy, a lung which is nearly exsanguinated. In view of this fact, Flandin and Joltrain (*Soc. Méd. Hop.*, April 7 and July 18, 1913) recommend the substitution of emetine for ipecac, since it produces no nausea and does not influence arterial tension. Several patients suffering from hemoptysis, when treated with injections of 4 centigrams (2-3 grain) of emetine hydrochloride, were decidedly and rapidly benefited by this medication.

This antihemorrhagic action, it seems, is not prolonged, so that Flandin advises repeating these injections once or twice daily for three or four days. Just how the emetine

acts is not well explained. The effect is either due to a fall of the blood pressure or to a modification of the coagulability of the blood.

It seems, though, that this apparent hemostatic property should not be applied indiscriminately in the treatment of every kind of hemorrhage, although Renon (*Soc. Méd. Hop.*, Oct., 1913) has secured an arrest of hematemesis with the drug in several cases and Valassopoulo has checked a hemorrhage in the stools. Lesné is another man who has obtained good results with emetine in the treatment of hemoptysis.

Furthermore, it is likely that, as with the other hemostatic remedies used in similar cases (gelatin, serum, transfusion, and amyl nitrite) which have been studied during the last year by Nolf and Carnot (reported to the Medical Congress held in Paris in October, 1912), there will be a certain proportion of favorable results and of failures, depending upon the peculiar mechanism, the anatomical location of the lesion, and the severity of the hemoptysis under treatment.

THE THERAPEUTIC USE OF THORIUM X

In an article in the *Muenchener Medizinische Wochenschrift* for September 23, 1913, O. Meseth, of Erlangen, who used thorium X in the treatment of various diseases, recommends beginning with small doses, except in leukemia, where he recommends from the first a comparatively large dose, which may be increased (see *Brit. Med. Jour.*, Oct. 25, p. 1107). He advises 300 to 400 electrostatic units (1 electrostatic unit=1000 Maché units) to begin with. The highest dose he so far has given is 1000 electrostatic units.

In pernicious anemia, great care must be exercised, and Meseth usually begins in such cases with from 10 to 70 electrostatic units. Secondary anemias react well to small and medium doses. The best results obtained with thorium X were in rheumatic and other joint affections. Beginning with small doses, he either increased them gradually up to a maximum of about 500 or 600 electrostatic units, or continued the small doses for a considerable time. In small and medium doses thorium X was well tolerated for months.

He is not yet able to say whether it is better to administer the substance by intramuscular injections or by the mouth. The dose given by injection probably was more exact, but excellent results were obtained by giving thorium by the mouth. The latter method is cheaper; an injection of 100

electrostatic units costing about 25 cents, and the corresponding dose by the mouth about 12 cents.

He records the changes produced in the blood, and mentions some cases in which certain undesirable effects occurred, but they were rare and not severe. He strongly advises the employment of this substance in anemia (excepting pernicious anemia), sciatica, and chronic joint affections.

SACCHARIN IN PHOSPHATURIA

Dr. S. D. Hartman, Tippecanoe City, Ohio, a recent visitor to Ravenswood, tells us that 3 grains of saccharin given in 1-6-grain doses during twenty-four hours will cure phosphaturia. This is a novel suggestion. Has any other reader of CLINICAL MEDICINE had any experience with this remedy?

In this connection, we might suggest the value of atropine for phosphaturia. It is the best single remedy we know of for that condition.

COLONEL WOODRUFF JOINS THE STAFF OF "AMERICAN MEDICINE"

We are pleased to learn that Dr. Charles E. Woodruff, Lieutenant-Colonel in the U. S. Army, retired, is to become one of the editors of *American Medicine*. Our New York contemporary is adding a most brilliant man to its staff, one who has achieved things in sanitary and military medicine, has written numerous books and special articles, and studied, in advanced work of a high order, the role of climate in its relation to resistance to disease. We congratulate *American Medicine* upon securing Colonel Woodruff for its editorial department.

ROENTGEN AND RADIUM THERAPY IN UTERINE FIBROMA, MYOMA, AND CARCINOMA

According to Schoenberg, whose experience is reported in *The British Medical Journal* (Aug. 23, 1913, p. 451), x-radiation is of great value in the treatment of uterine myomas. He reported 33 cases brought to a successful issue, the average duration of treatment having been six and seven months. Doctor Schoenberg declares that there is a direct influence upon the tumor-cells, resulting in their degeneration or disappearance. It is admitted that not all of these cases are suitable to this treatment; still, the percentage of cures was very high.

At the same meeting of the International Medical Congress at which Schoenberg's experience was given, Dr. Foveau de Courmelles declared that early fibromata, even when of large size, yielded readily to x-rays applied externally through an aluminum filter. While Kroemer (of Greifswald) reported good results with mesothorium in uterine, vaginal, and rectal growths, Jacobs (of Brussels) found radium of considerable value in the treatment of uterine and vaginal cancer. Other speakers were not equally enthusiastic as to the value of these agencies; indeed, no definite cures of carcinoma were reported.

STANDARDS OF MEASUREMENT OF RADIOACTIVITY

Development of interest in radium and other radioactive drugs, which are now being largely used in therapeutics, especially in the treatment of arthritis deformans, gout, neuralgia, and similar diseases, as well as in the treatment of carcinoma, makes necessary some knowledge of the methods of measuring the dosage of this substance.

We learn from Dr. L. G. Rowntree, of the department of pharmacology of Johns Hopkins University, that at the last International Congress at Brussels the following units were adopted:

One curie equals the amount of emanation in radioactive equilibrium from one Gram of radium.

One millicurie equals the amount of emanation in radioactive equilibrium from one milligram of radium.

One microcurie equals the amount of emanation in radioactive equilibrium from 1-1000 milligram of radium.

The Germans have not altogether adopted this system and are using Maché's arbitrary unit of measurement. The Maché unit is 1-2700 of a microcurie. All measurements are made with the electroscope.

A NEW METHOD OF USING IODINE IN TUBERCULOSIS

Iodine is now generally regarded by surgeons as our most valuable antiseptic. It is natural, therefore, that physicians should be seeking new methods of giving this product in the treatment of infectious diseases, especially in tuberculosis, for which it has been employed for many years with varying degrees of success.

Dr. David Curle, of Glasgow, has devised

a very novel method of using iodine designed to increase its antiseptic power when taken internally. In a paper published in the *London Practitioner* for December, 1912, he suggested the method of intensive iodine treatment, which we shall describe herewith. This idea has been further developed by Curle in *The Medical Council* of November and December, 1913, and also in a paper published by Dr. Edward G. Reeve in *The Practitioner* for September, 1913.

The purpose of Curle's treatment is, to throw into the blood stream as large a quantity of iodine in solution as may be necessary to secure the desired antiseptic action. This drug is very conveniently given in the form of potassium iodide; but, unfortunately, this salt is not, in itself, antiseptic. Furthermore, according to Binz, only when the potassium iodide is given in doses not exceeding 4 grains every four hours is the iodine released from its combination as a vapor, through the oxidizing action of the oxyhemoglobin of the blood. And it is only in this manner that it gives rise to the characteristic symptoms known as iodism. The oxyhemoglobin available can break up only this minimal quantity; and, so, when larger amounts of potassium iodide are introduced, the iodine vapor is dissolved by the excess of the potassium iodide present and carried in the blood in solution—in which form it exerts its antiseptic action *without* causing iodism.

Hence, the iodine effect of potassium iodide as it is ordinarily administered is limited to the small proportion of iodine contained in the salt ordinarily disintegrated by the oxygen of the blood. The purpose of Doctor Curle's method of procedure is to break down a larger percentage of potassium iodide than this by adding to the blood some oxidizing substance. This he accomplishes by administering chlorine in solution.

Doctor Curle's method of proceeding is as follows: After breakfast in the morning, the patient is given 30 grains of potassium iodide in 5 ounces of water, washed down with clear water. Three to four hours later, after a meal, he then gives 1 ounce of a freshly prepared chlorine solution in 9 ounces of lemonade—in other words, a glassful.

The chlorine solution is made by putting 60 grains of dry potassium chlorate in the bottom of a dry 24-ounce bottle, adding 2 drams of strong hydrochloric acid, then corking and shaking the mixture, releasing the cork sufficiently to allow the escape of atmospheric air, corking again for fifteen minutes, then adding cold water, little by little, re-

corking, and shaking after each addition until the mixture is made up to 24 ounces. This constitutes the liquor chlori compositus of the United States Pharmacopeia.

The dose of the chlorine water is repeated at 2-hourly intervals until sufficient has been given; usually 3 ounces being administered daily, which is enough to oxidize a sufficient quantity of potassium iodide and generally produces signs of iodism; these signs passing off completely after the first four or five days.

By the method here described, a large amount of iodine, *in solution*, is carried by the blood stream to all the diseased areas, where it can exert its characteristic antiseptic action.

As a rule, phthisical patients who receive this treatment experience a slight accentuation of their symptoms during the first few days. The quantity of sputum usually is increased, tubercle bacilli are found in abundance, and there is a slight elevation of temperature. Apparently there is at first marked inflammatory reaction around all the infective foci in the body, and it is this that is responsible for the lighting up of the symptoms. However, this slight exacerbation is followed, within a few days, by a decided turn for the better. Expectoration is made easier; the cough grows less irritating and severe and is less troublesome at night; the temperature falls, changing for the better usually within a week; physical signs improve; and nearly all patients put on weight.

Doctor Reeve, who has had an experience with 76 cases thus treated, says that 10 patients who had completed three months' treatment put on 120 pounds in weight, in favorable cases the increase being about 12 ounces a week. In fact, only three of his patients failed to gain. Thirty-three percent of his patients who have been treated for three months or more are now tubercle-free, as shown by repeated examinations.

The same benefit follows in surgical tuberculosis as in tuberculosis of the lungs.

Doctor Reeve declares that this method of treatment produces its effects more rapidly than any other form of treatment of tuberculosis known to him, and with a minimum of risk. After the first week the patient does not need to be kept under continued surveillance and can continue his work. He says further that all his patients declare they sleep better, find great relief from the lessening of the cough and the ease of expectoration, while the appetite almost invariably improves. Like Doctor Curle, he advocates a more gen-

eral adoption of this treatment, and herewith it is commended to readers of *CLINICAL MEDICINE* for trial.

One of the members of the staff of this journal is now doing some experimental work with the intensive iodine treatment, though, he has modified it somewhat. He will be glad to correspond with any member of the "family" who may desire to give it a trial, and every physician having cases of tuberculosis not responsive to present treatment should try it. It seems to be one of the most promising methods recently suggested.

NOVEL IODINE TREATMENT OF WOUNDS AND ULCERS

A. Reuterskiöld proposes, in *Hygiea* (May, 1913) a treatment of wounds, septic as well as aseptic, with a nascent iodine that is produced in the affected area in a novel manner.

The patient is given sodium iodide, by the mouth, in doses ranging from 1-2 to 1 Gram (7 1-2 to 15 grains) every four hours. Then, from the iodide circulating in the blood, iodine is set free in the wound by the local application of hydrogen dioxide. In order to prevent the free caustic alkali (the soda minus the iodine) attacking the tissues, a little—1 percent—of acetic acid is first added to the hydrogen-dioxide solution, this converting the soda into the harmless sodium acetate. The iodine being in the nascent state, it exerts a powerful and direct influence upon the wound and its abnormal contents.

To use this iodine mixture, moist gauze is applied to the wound and then the hydrogen dioxide and acetic acid solution is allowed to flow into the dressing very slowly through a gauze wick, so as to keep the wound constantly moist with it.

By this method of treatment, Reuterskiöld succeeded in curing a number of very intractable cases of varicose ulcer which had resisted all the previous expedients. It is also employed in skin grafting, after amputation of the breast for cancer, in empyema, paronychia, and in other simple surgical conditions. Compare the preceding article.

TO PRESERVE RUBBER INSTRUMENTS

The cause of the deterioration of rubber goods is the acid formed by the oxidation of the sulphur in it. Hence, frequent boiling in water or keeping the articles immersed in glycerin, for instance, is a good precaution. Immersion in ammonia also serves; but generally there are objections to such processes.

It may be well to remember, however, that a good way is, to enclose the goods (especially if kept for sale) in tight receptacles and place with them a generous amount of unchanged ammonium carbonate in not too small lumps. The crystalline salt gradually decomposing, the free ammonia vapor neutralizes any sulphur acids generating.

This method, while not new, has lately been freshly recommended by one who has tried it out. Remember, though, that the ammonium carbonate loses in virtue as it decomposes, the white powder (of the bicarbonate) to which it crumbles being worthless; hence, the supply must be replenished.

CYMARIN, A NEW CARDIAC AND VASCULAR REMEDY

Cymarin, the active principle of apocynum cannabinum, has been employed by Dr. Marie Schubert (*Deut. Med. Woch.*, 1913, p. 540; through *Pharm. Zentralh.*, 1913, No. 26) and found a very satisfactory remedy in diseases of the heart and blood-vessels, ascribing to this glucoside the same remedial properties as we find laid down in American textbooks for the mother-plant, Canadian hemp (erroneously also called Indian hemp).

In general, Dr. Schubert places this drug between caffeine and the digitalis principles, but approaching the latter in action, and thinks it will acquire a position alongside of digitalis, more especially because of its more positive dosage. In doses of 0.2 to 0.3 mg., cymarin, when administered intravenously, acts strongly diuretic—more so than diuretin. Effectual influence upon the heart becomes apparent only after doses of 3 or 4 mg., when the pulse grows more full, stronger, and slower; dyspnea is relieved; rapid action, though, occurring only after intravenous injection. Untoward effects were not observed. Taken internally, the drug acts more slowly and less powerful than digitalis.

ATROPINE TREATMENT OF LEAD COLIC

In the treatment of lead colic, Mathieu says, four years ago he gave up the use of tincture of belladonna because it was so often rejected by vomiting and was uncertain in effect, and substituted hypodermic injections of atropine. This means he employs in his hospital service in the treatment of lead colic, after one or two sedative injections of morphine (see *Paris Medical*, Nov. 1, 1913, p. 505).

The atropine is begun on the second day with 1-2 milligram (1-128 grain) doses morning and evening, then increased to three times a day. Hot compresses are applied to the stomach. A small quantity of water is given the patient in tablespoonful doses. Nothing else whatever is permitted—neither enemas nor purges.

After the first day, thanks to the morphine, and after the second, thanks to the atropine, the patients are relieved, vomiting becomes less frequent, and ceases entirely from the third to the fifth day, according to the intensity of the case; sometimes ceasing immediately when the attacks are slight. Thereupon the patient can begin taking small quantities of milk diluted with water. After vomiting and pain have entirely ceased, a mild laxative is administered. After the bowels have moved, the attack may be considered at an end.

Mathieu believes that this method of treatment is infinitely less distressing to the patient than the classic purgative treatment. The method employed at the Charité hospital, with its repeated drastic purgatives given by the mouth and the rectum, was, he says, a useless torture, which increased the suffering of the patient and prolonged his disease.

ATROPINE SULPHATE IN PYLORIC SPASM

Both belladonna and its alkaloid, atropine, according to Mathieu (see *Paris Medical*, Nov. 1, 1913, p. 503), present a threefold action that warrants their extended use in gastrointestinal therapy: they relieve pain, they are antispasmodic, and they arrest secretion. He finds atropine particularly useful in relieving the pain of the pyloric spasm so common in ulcer of the stomach. In these cases, there is delayed pain, relieved by food and alkalis; excessive secretion of hydrochloric acid; and the reduction of fluid in the stomach in the morning, together with the presence of a small quantity of alimentary detritus. This syndrome characterizes an incomplete stenosis of the pylorus due to ulcer at this point or near it.

Formerly Mathieu employed exclusively the tincture of belladonna in this condition, beginning with moderate doses and gradually increasing until the characteristic signs of intolerance were noticed; namely, marked dryness of the mouth and throat, dilatation of the pupils, troubles of accommodation, making reading impossible, vertigo, and ringing in the

ears. Of late years, however, he has come to prefer the daily injection of 1 to 3 milligrams of atropine sulphate, giving it in increasing doses until the first signs of intoxication are produced. The patients are, at the same time, placed upon the regimen advised by Senator, who recommends the free use of fatty substances, particularly fresh butter and cream.

Mathieu begins with 1-4 milligram (1-250 grain) of atropine sulphate three times daily. Next day he injects 1-2 milligram (1-128 grain) morning and night; the third day, if there are as yet no signs of intolerance, three injections of 1-2 milligram each, making a total of 1 1-2 milligrams of atropine sulphate in twenty-four hours. This quantity rarely is exceeded.

By this method of treatment, Mathieu is able to subdue the pain and bring the patient to a better condition for operative intervention. He does not advise, though, as does Schick, that this method, however excellent the results, should be substituted for surgical treatment. It is particularly indicated when there is severe gastralgia and hypersecretion, gastric intolerance, and repeated and uncontrollable vomiting.

Of course, the patient should be kept absolutely quiet in bed, and hot applications should be made to the epigastric region. No food whatever should be allowed to enter the stomach; but neither does Mathieu advise rectal feeding, on account of the reflex disturbance of the stomach it is likely to produce. Any loss of fluid is replaced by subcutaneous injections of physiologic salt solution, and, on occasion, of glucose "serum."

PAINLESS INJECTIONS OF MERCURY BICHLORIDE

After an extensive trial of his method of giving hypodermic injections of mercury bichloride, Doctor Watson, of St. Louis (*Med. Brief.*), recommends it as being practically painless, and but rarely giving discomfort; there, also, he claims, is very little local reaction. Dr. Watson heats together 2 parts of mercury bichloride and 2 parts of quinine-urea hydrochloride in 96 parts of fresh distilled water, which forms a clear solution. This solution (containing 2 percent of each drug) he administers hypodermically while it is still warm; for, it will separate out crystals upon cooling. The ingredients will not enter into clear solution in the cold, hence, the directions for heating.



"ON WHAT MEAT DOETH THIS OUR CÆSAR FEED THAT HE IS GROWN SO GREAT?"

Miscellaneous Articles

The Clinical Congress of Surgeons of North America

THE fourth annual meeting of the Clinical Congress of Surgeons of North America was held in Chicago this year, November 10 to 15. Last year, in New York, at the third meeting, 2600 men attended. This year in Chicago more than 4200 registered. Unfortunately this large attendance far exceeded all anticipation, and, as a consequence, the hotel accommodations arranged were insufficient, while, what was even more to be regretted, many of the clinics were so crowded that good men who had come from distant parts of the country found it impossible to observe the operative work which they had come to see. To prevent this annoying overcrowding, it became necessary to issue special tickets for about forty different clinics. The demand was so great for clinics of men like Murphy, Ochsner, Bevan, and a few others that tickets were given out according to priority of application and it was made impossible for anyone to attend the leading clinics more than once during the course of the Congress. Naturally, this arrangement created much dissatisfaction, unavoidable though it was.

However, in spite of these and other drawbacks, this meeting undoubtedly was a very great success. Some magnificent work was shown, demonstrating again that Chicago is the surgical center of the world. The evening sessions of the Congress were generally excellent. On Monday night Dr. Edward Martin, retiring president, delivered an address, and Dr. George E. Brewer discussed pyloric closure in gastroenterostomy. Dr. Harvey Cushing reported 150 Gasserian ganglion operations. The following evening Dr. John B. Deaver, of Philadelphia, read an interesting paper upon gastric hemorrhage, in which he devoted much care to the discussion of the differential diagnosis between gastric ulcer and carcinoma of the stomach. This paper was discussed by Dr. A. J. Ochsner, of Chicago. On the same evening Herbert J. Paterson, of London, discussed the subject

of gastrojejunostomy, the operation for the establishment of an artificial passage between the stomach and jejunum. In his paper, Doctor Paterson declared that in less than three percent of his cases of ulcer of the stomach in which this operation was applied did malignant degeneration follow. He disagreed with the Mayos as to the frequency with which carcinoma is grafted upon stomach ulcer.

One of the most interesting sessions of the Congress was the symposium upon radioactive treatment of various kinds, the subject that was discussed Wednesday and Thursday nights. Among those taking part were Profs. Bernhard Kroenig and C. J. Gauss, of the University of Freiburg, Germany, and Prof. Howard A. Kelly, of Baltimore. The German physicians demonstrated their technic of radiotherapy in the treatment of cancer, at Wesley Hospital.

In the discussion of this subject, Doctor Kelly told of the treatment of forty cases of cancer. He declared that two cases of carcinoma of the breast seemed to have been cured by the use of radium. This substance also is sometimes curative, he declared, in cancer of the nose, eyes, and lips; and it will produce good cosmetic results where surgical measures would mutilate and disfigure. Doctor Gauss said that the x-ray, radium, and mesothorium had all been used in Freiburg with excellent results, both temporary and permanent.

Dr. Thomas S. Cullen, of Baltimore, sounded a word of warning, saying that nothing is more to be feared than the use of radium in nostrums of any kind. "Radium should be standardized, so that the buyer knows what he is paying for," he continued; "and only time will tell what percentage of cases can be cured with radium." At present early surgical operation affords the best chance for cure. However, the results obtained from radium must be taken into consideration.



DR. JOHN B. MURPHY, Chicago
New President of the Congress



DR. FRANKLIN H. MARTIN, Chicago
Secretary of the Congress

At one of the most interesting sessions of the Congress, on Thursday evening, the subject of cancer was discussed. At this session, a committee appointed the year before and consisting of Dr. Thomas S. Cullen, of Baltimore, Dr. E. C. Dudley, of Chicago, Dr. C. J. Miller, of New Orleans, Dr. F. P. Simpson, of Pittsburg, and Dr. H. C. Taylor, of New York, made a report upon the cancer-problem, the purpose being to institute a campaign of publicity to be instituted among the people concerning the prevalence of this disease and the possibility of cure by early operation.

At this year's meeting, Mr. Frederick L. Hoffman, of Newark, N. J., stated that approximately 75,000 deaths from cancer were recorded in the United States in 1913. The average age at death from this cause was 59 years. Deaths from cancer amounted to 8.6 percent of the mortality from all causes at the age of 45 and over. For the decade ending with 1911, the cancer death rate has increased, from 65.8 per 100,000 of the population in 1901, to 83.9 in 1911. Various methods of publicity were discussed. Samuel H. Adams took up publicity through the lay press; Dr. Edward Reynolds, publicity and education through the American Society for the Control of Cancer; and Dr. Frederick R. Green, publicity and education

through the Council on Health and Public Instruction.

At the last scientific session of the Congress, Dr. J. M. T. Finney, of Baltimore, discussed pyloroplasty, Dr. Charles H. Mayo, of Rochester (Minnesota), the goiter question, and Dr. J. F. Binnie, of Kansas City, the uses of fat in surgery. Space is lacking to give details concerning these papers, all of which, however, were excellent. In addition to the general papers, a number of other interesting surgical subjects were discussed in a division devoted to surgical specialties, including diseases of the eye, throat, and ear. Dr. Robert H. Elliot, of Madras, India, was an interested participant in the ophthalmologic section, and showed his much-praised operation for glaucoma at one of the clinics.

A good-sized book might be written about the cases shown at the different clinics during the session of the Congress. It almost seems unfair to select any one, since excellent work was shown in all. However, undoubtedly Dr. John B. Murphy's clinic was one of the principal attractions of the meeting. This clinic, at Mercy Hospital, was in continuous session from 9 a. m. to 6 o'clock p. m. every day during the Congress, and the work was done by Murphy, Andrews, Tivnen, Mix, Kreuschner, Zapffe, Hochrein, Barnes, Morgan, Sawyer, besides a number of visitors,



SIR W. ARBUTHNOT LANE
London, England



PROFESSOR REINHOLD KROENIG
University of Freiburg, Germany

who demonstrated various specific methods of surgical procedure. Almost every conceivable variety of operation was done at this clinic alone. In addition, Doctor Murphy's assistants gave clinical talks: for instance, Kreuschner, on vaccine therapy and artificial pneumothorax; Zapffe, on Murphy's formalin and glycerin treatment of arthritis; Hochrein, on the value of the Roentgen-rays in diagnosis; not to specify further.

A similar crowd rushed to see the work of Ochsner and his assistant, Dr. N. M. Percy, at the Augustana Hospital; and at the Presbyterian Hospital, there was a combined surgical and medical clinic, conducted by Arthur D. Bevan and Frank Billings, with the aid of assistants and associates. This was a great attraction to men interested in medical as well as surgical work.

We might go on indefinitely with regard to the larger hospitals, but a word certainly should be said of clinics held in the smaller hospitals of the city, which, while less crowded, certainly were equally attractive. Of those concerning which we have personal knowledge, we may mention the Ravenswood Hospital, where an interesting clinic was conducted by Dr. George W. Green; the Maimonides Hospital, where some fine surgical work was done by Dr. Benjamin H.

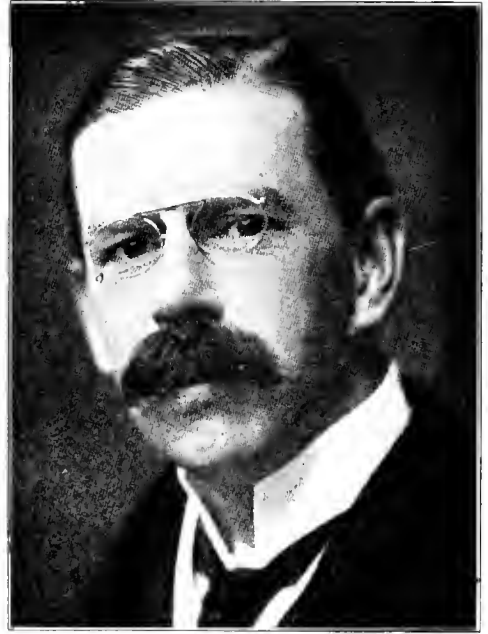
Breakstone; and the Frances Willard Hospital, where Dr. J. D. Fowler operated upon some very interesting cases. The Cook County Hospital clinics also were crowded. Many of the hospitals not only provided special facilities for the attending surgeons, but a number also gave entertainment for the inner man, free lunches being served at Wesley, Mercy and numerous other institutions.

The feature of the Congress which has attracted the most attention in the lay and medical press was the organization of the American College of Surgeons, which was perfected at this meeting. Sir Rickman Godlee, president of the Royal College of Surgeons of England (after which the American organization is patterned), was present and delivered the inaugural address. In the neighborhood of 1050 American surgeons became charter-members of the newly established college, among them 106 Chicago men. While the names of the majority of the surgical leaders of Chicago are found in this list, a very considerable number are equally conspicuous by their absence.

Nothing which has occurred in recent years has, apparently, stirred up the medical profession in this country so much as the organizing of the American College. While its ideals undoubtedly are high and the



DR. CHARLES H. MAYO, Rochester, Minn.



DR. HERBERT J. PATERSON, London, England

intentions of its organizers we must assume to be of the very best, there certainly are some very pertinent objections to this body. These patent objections have been conservatively stated in the editorial in this issue of *CLINICAL MEDICINE*, as also in the cartoon we show on another page. They may be crystallized as follows: (1) the organization is undemocratic; (2) it attracts special lay attention to one branch of the profession and to a restricted portion of that branch, to the apparent detriment of other branches; and (3) it seems to be causing a dangerous schism in the profession at a time when unity is most desirable. Articles pointing out these positive dangers have appeared in numerous medical publications, among them the *Bulletin* of the Chicago Medical Society and *The Illinois State Medical Journal*.

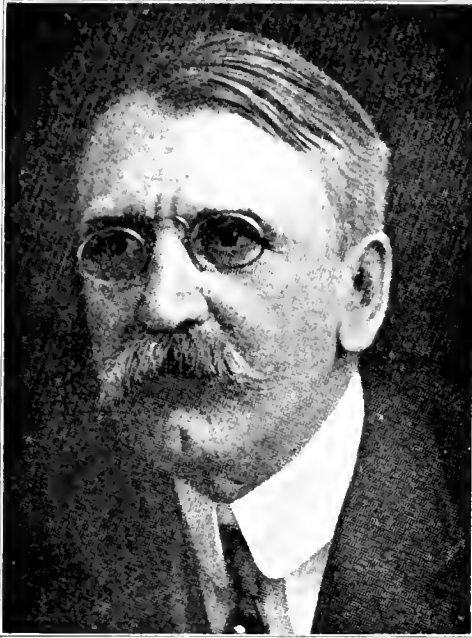
One feature of the College which has been much criticized is the division of surgeons into classes A, B, C, and D. In justice to Dr. Franklin H. Martin, it should be stated that in a newspaper interview he has denied that it was the plan of the College to grade in classes the surgeons who became fellows. This is what he says about it:

"We started out with Classes A, B, C, and D, it is true; but that classification was only for the purpose of organization. I made a mistake, I realize now, in using the word

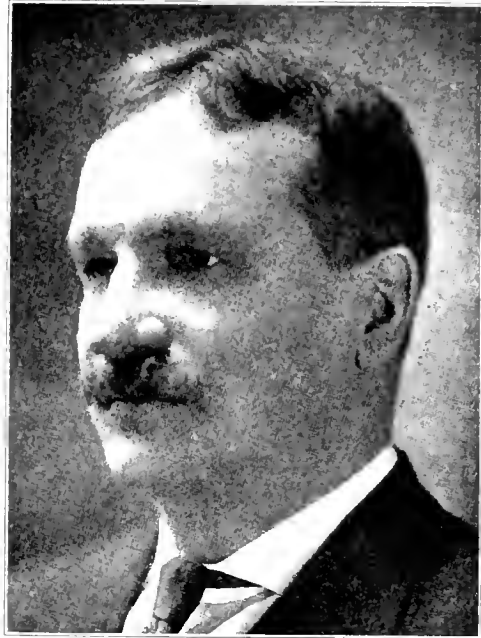
'class' in working out the plan of organization. I should not have used that word. I should have used the word 'group,' and each time I used it I should have explained that the term was used only for purposes of organization. The truth is that there will be absolutely no classes or groups among the fellows of the College after the organization has been perfected. All will be on the same footing. It doesn't matter whether it be the most distinguished surgeon admitted as an honorary member or the most inconspicuous young man admitted ten years hence by examination. After they are fellows they will all be in the same grade."

The first president of the American College of Surgeons is Dr. J. M. T. Finney, of Baltimore. The membership of the first board of regents is: George E. Armstrong, George E. Brewer, Herbert A. Bruce, Frederick J. Cotton, George W. Crile, J. M. T. Finney, William D. Haggard, Edward Martin, Franklin H. Martin, Charles H. Mayo, Robert E. McKechnie, John B. Murphy, Albert J. Ochsner, Harry M. Sherman, and Charles F. Stokes.

Dr. John B. Murphy was elected president of the Congress for the ensuing year, and Dr. George E. Armstrong, of Montreal, vice-president. The other officers were reelected. The next meeting of the Clinical Congress of Surgeons of North America is to be held in



DR. JOHN B. DEAVER, Philadelphia



DR. J. M. T. FINNEY, Baltimore

London. While it is stated that this place was chosen because the American surgeons desired to become acquainted with English surgery, and although the American surgeons were invited to meet in London (July 25, 1914) by 52 leading London hospitals, it is talked quietly among those who know that it was thought to be diplomatic not to meet in America next year by reason of the unfortunate chaotic management of the clinics at the Chicago meeting, which, as stated, caused much dissatisfaction. By year after next, it is hoped, conditions will be more favorable.

The commercial exhibitors at the Congress were generally unanimous in declaring that their end was a fizzle, because few had time to attend the exhibit hall. The rush for tickets to the clinics began at 8 o'clock in the morning, and so much time was necessary to secure these—as the ticket issuers were so scattered around the different portions of the hotel—that by the time the average man secured his ticket he had to hustle out to the clinic. However—better luck next time.

In spite of all the misunderstandings and bitterness which have grown out of the Chicago meeting of the Congress, we have good reason to feel proud of American surgery, and especially of Chicago surgery. As *The Chicago Tribune* stated in one of its editorials: "It is not a chauvinism to assert that American surgery leads the world. It

is a fact. For a decade or more, what may be called the tide of surgical travel, the surgeon's pilgrimage, has been toward America, just as the physician's or the research-worker's pilgrimage has been away from us, to Germany, to France, to Great Britain. The frontier work of modern surgery has been done here in our country, and the most progressive workers in this field abroad have been coming to America for suggestion, instruction, and inspiration. And American surgery is not an affair of the last decade, by any means."

VALUABLE HINTS ABOUT EMETINE, APOMORPHINE, CACTUS, AND OTHER THINGS

Some years since, Dr. R. C. Kenner—in *The Therapeutic Record*—wrote interestingly on the treatment of dysentery, and concluded: "If all these drugs fail, try ipecac." And someone queried, "Why not ipecac at first?"

After this, I opened the battle with emetine in the treatment of putrid dysentery, that fatally virulent disease, giving a grain dry on the tongue, with the patient flat in bed, and denied any liquid after it for an hour. Emesis is not provoked three times in a hundred cases, but a liberal purge rarely fails to occur. The strangest feature is,

that many times this ends the treatment in a perfect cure. The dosage of emetine to follow the purging was, as a rule, not taken as directed, because at the conclusion of the purge there was no symptom of disease left.

My rule is, to follow the action of the emetine with sulphocarbonate of zinc—our best astringent and an intestinal disinfectant second to none in use. It is in my absence that nothing but emetine is taken, the people deeming further medication unnecessary after the disease disappears.

I frequently employ the emetine in diarrhea, where it acts no less successfully than in the treatment of dysentery.

Once in a great many cases I find it necessary to repeat the dose till 4 grains have been taken—strangely without causing emesis.

I see in my French medical journals that emetine is being used hypodermically extensively by the French faculty, in the treatment both of dysentery and diarrhea, and with incredible success; and the Spanish *Revista de Hospitales*, published at Hospital Juarez, Mexico City, reports results equally satisfactory from the hypodermic use of emetine.

Undoubtedly the irritating property of the ipecac root is got rid of in the process of isolating the emetine, or emesis certainly would be inevitable.

I use no other drug for inducing emesis than apomorphine by the rectum, which acts promptly and effectively. I seldom resort to this in others than in peons who have gorged themselves with raw new rice in the field or with the pulp of cacao fruit. Thus I can treat half a dozen in the time the hypodermic syringe would be preparing for the first case; and there have been more than a dozen of those semi-savage Indians to be relieved in one evening on a big plantation.

Emetine has lent me precious service in the treatment of gastric fever, and more especially in typhoid fever, in which, I am sure, there is a broad field for its useful application.

Emetine would have to be administered hypodermically in the treatment of infants and little children, where it would be difficult to employ the dry substance effectively. However, I rarely use the emetine among the little folk; following practical elimination with appropriate dosage of copper arsenite, white of egg dissolved in lemonade, and sulphocarbonate of zinc. White of egg is a nutrient of high degree, which, with whey of clabber or buttermilk, rarely admits the undertaker into the distressful scene. It is

only mothers who are college-bred or of fashionable-society predilection who give me solicitude about the proper diet for their babes in convalescence; the middle-class and peon mothers seldom fail to supply an abundance of healthy milk.

I make use of enemata obedient to circumstances and necessity in the treatment of the little ones, the indicated antiseptic being given in lemonade; this probably being superior to any drug known to the profession; for lemon-juice may be introduced in clysters of a strength to kill every germ of Asiatic cholera it reaches, without prejudice or inconvenience to the patient—an accomplishment that would require any other substance of unbearable strength.

The copper arsenite is prophylactic passing ordinary credence (even in a dilution as great as 1 : 3000 given in drinking water), in epidemics of cholera or dysentery. This apart from its curative value.

Some twelve or more years ago I drew flaying criticisms from some French, English, and American leading medical journals by affirming that cactus grandiflora was a precious substance in the treatment of anemia, more especially such as follows these putrid dysenteries and pernicious fevers, by virtue of its inhibitive action against congestion and masterful influence over the equilibrium of the circulation—a matter valuable beyond computation in such precarious critical state of convalescence.

And now comes along Professor Lloyd, of Lloyd Brothers, Cincinnati, and assures the profession that, of a multiple array of physicians who answered questions submitted to thousands as to the medicines most used, cactus stands at the head of the list by a considerable majority.

I had been employing it in all the intervening years, never dreaming that it had gained such well-merited popularity in the face of such scathing criticism. I use it straight along for six months, sometimes, as an auxiliary to strychnine arsenate and iron arsenate; and have had the gratification of watching skeletons develop to a passable human anatomy. It is a very fine element of treatment for those chlorotic girls who never have menstruated long after their natural time; and I often have such patients.

It were well to remember not to use pineapple- or lemon-juice soon after milk food has been ingested, as either is liable to curd the milk; but milk may be taken soon after either of such acids, as they are quickly neutralized in the stomach.

This wonderful ipecac, which I started out to discuss but got switched off on other vitalizing substances, yields "wine of ipecac," one of the best antivomit preparations known to the profession; it has arrested black-vomit for me a number of times.

Tincture of iodine is a dependable antihiccough remedy, often saving otherwise hopeless victims for me.

I have had incredible success with the anasarca treatment of dropsy; four cures this year, each patient swollen equal to an over-gorged toad.

I had one very remarkable case, vicious for eight years, this subject eating soap and drinking kerosene. When I first saw the man his scrotum resembled the inflated bladder of a big bull, less than one-quarter the head of the penis being visible; and the huge sac was full of thick offensive pus; which I evacuated. The scrotum was rotten and sloughed off promptly, leaving the testicles bare. The process of decomposition was arrested by the application of my phenol compound, and in twenty days a new scrotal covering formed under the influence of a powder composed of starch, 10 parts; zinc oxide, 4 parts; naphthaline, 2 parts; acetanilid, 1 part. The dropsy disappeared in a week. But the fellow's blood was exhausted and the faculty of making more destroyed; hence, he died thirty-five days after I first saw him.

I follow anasarca with calcium sulphide, and this with iron arsenate.

This deadly contagious dysentery I persist in designating as "putrid," owing to its rotten, gangrenous character, while "amebic" might probably be more ethical; although I am unable to deny or affirm the presence of the amebae, which, if not the primary cause, certainly could not aggravate the fearfully loathsome disease.

The most fatal disease we have is war, on a small scale, here; yet thus far incurable, although the rebels have had several apparent Waterloos within the past three months; still, they rally small bands and continue their depredations at a safe distance from the federals. One of their latest enterprises consists in seizing hostages and holding them for ransom, one of them being killed by the federals in a sudden attack made on the rebels the other day.

ROBERT GRAY.

Pichucalco, Mexico.

[Since this article was received, Dr. Gray has written us a long letter, in which he tells

us something about the situation in unhappy, war-devastated Mexico. This appears on page 85. He lives in the southern part of the republic, on the Isthmus of Tehuantepec, one of the most unhealthy portions of the country. Few men have had so wide an experience with tropical diseases as Dr. Gray.—Ed.]

HE READS "THE CLINIC" TWICE

I value your journal highly. I think it the best of eight medical journals that I take. I read it as soon as I get it, let it lie on my desk a week or two, then read it again and note down in a reference-book the points I think will aid me to be a better doctor. You are doing a great work, and I trust you may long be spared to help us.

J. W. ALBAUGH.

Mingo Junction, O.

CATAPHORETIC TREATMENT OF ECZEMA

Last March a woman suffering from chronic eczema of five years' standing came to me for treatment. She had been under the care of some of the best physicians of Montreal and had received every possible course of internal and external medication, without any apparent benefit. The oval patch of about ten square inches of skin situated on the forearm was red, tender, and elevated above the surrounding healthy area.

I gave this patient eight x-ray treatments of from fifteen to twenty minutes' exposure each, then followed with the high-frequency current and cataphoresis, using a solution of potassium iodide. These treatments every two or three days were continued for a period of nearly a month, when they were discontinued.

I examined my patient six weeks later and to my delight and astonishment I found that the redness and elevation had entirely disappeared, leaving only a slight greenish discoloration marking the site of the eruption. This color gradually faded.

While I shall not attempt to explain how the cure was brought about, the fact remains that she is cured and that electrotherapy did the work. No medication whatever was employed. This experience with others equally successful gives me substantial faith in electrotherapy, with which I am achieving results quite beyond the scope and power of ordinary medication.

In conclusion, I want to say that I have secured much practical help in my electro-therapeutic work from articles which appeared in *CLINICAL MEDICINE* last year. Those by Dr. H. C. Bennett, of Lima, Ohio, were of great interest and profit to me and I have followed his suggestions with success and satisfaction to myself and patients. I want to add that *CLINICAL MEDICINE* has become an indispensable requisite to me and I shall continue to subscribe for it as long as I am interested in the active practice of medicine.

T. J. JAMIESON.

Morrisburg, Ontario, Can.

DAUN KOMIS KODJING: A JAVANESE REMEDY FOR GALL-PASSAGE DISEASE

Allow me to add a word to the item printed on page 928 of your November issue about the plant daun komis kodjing there recommended as a new remedy for gallstone-disease. Perhaps this plant and its uses are new to Doctor Hagelweide, but to those who happen to have spent years in the Sunda Islands the plant is quite familiar, it being offered for sale at all passars, or markets, in those regions. It is differently named in the different islands; but as to the "daun," this is also written "daan" or "daoen," and means leaves. In Java the name is "temoe lawah" or "temoe lawak." In the fourth edition of the Dutch Pharmacopeia, its Latin official name is given as *rhizoma curcumæ javanicæ*.

The drug is taken as a tea (infusion of 1: 10) for diseases of the liver or the gall-bladder, and it really has fine healing qualities. There are in use the extractum, the oleum, and the pulvis temoe lawak. I have made the extract into pills for the use of sufferers from gallstone.

The natives use temoe lawah in different forms, but seem to dislike the infusion. I remember visiting a Malay who had cirrhosis of the liver. Seeing some temoe lawah in his room, I made some of the tea and told him to drink of it now and then. When I offered him the first cup he refused.

"Why won't you drink it?" I said. "It is good."

He answered, "*Sebab poenja obat tida enak*" -- "Your medicine tea tastes too bitter."

The next day I found him chewing little slices of the root, which he seemed to relish. The man got well.

E. ZWIGTMAN.

Niles, Mich.

[It will be observed that this plant is, generically, a curcuma; that is, it is allied to the familiar yellow rhizome turmeric, the basis of curry powder. But turmeric (never, never, pronounce it "tumeric"!), a relative of ginger, has a pungent, spicy taste; and this accounts for the similar qualities possessed by the temoe lawah root, a specimen of which Doctor Zwigtman kindly mailed with his interesting letter.

These facts, however, lend themselves to speculation. The gingers and turmeric are aromatic stimulants, and as such are favorite stomachics. Hence, any possible cholagog and anticholangeitic virtues displayed by the plant in question may reasonably be ascribed to those properties.

But here is another pointer. The doctrine of stigmata has played quite a role in the healing-art, and—turmeric is yellow—and in stoppage of the bile the person's skin becomes yellow—and, so, turmeric once was a "wonderful cure" for jaundice—and—well, daun komis kodjing is, botanically, of the genus *curcuma*, family of zingiberaceæ. Oddly, while even German materia-medica discard the idea of turmeric being a cholagog, we find it perpetuated in "Merck's Manual," where its virtues are given as "hepatic stimulant" and "tonic in jaundice."—ED.]

ARMY OFFICERS VISIT THE SLEE LABORATORIES

Last Labor Day Major General Barry, commanding the Eastern Division of the United States Army, and his staff made a visit to the Slee Laboratories at Swiftwater, Pa. In the picture shown on this page may be seen the faces of Major General Thomas H. Barry and Colonel Alfred S. Bradley, M. C., chief sanitary officer of the Division. They are standing at the front door of Dr. Slee's beautiful stone bungalow. In the midst of the group of army officers are Mrs. Slee and Miss Hunt, and Mr. Arthur M. Slee also appears in the picture.

While they were at Swiftwater these officers made a careful inspection of the Slee Laboratories, in which they were greatly interested. Dr. Richard Slee, the founder of these laboratories, is an enthusiast regarding army work in general, and the Army Medical Corps in particular. As every reader of this journal knows, Dr. Slee, who is one of the editorial staff of *CLINICAL MEDICINE*, is a lieutenant in the Medical Reserve Corps, United States Army. In the latter capacity, he had charge of the third sanitary division



ARMY OFFICERS VISIT DOCTOR SLEE

Rear, from left to right: Arthur M. Slee; Lieut. H. C. Vanderveer, 3rd Field Artillery; Lieut. Col. William E. Horton, Quartermaster's Corps; Major Frank H. Lawton, Quartermaster's Corps; Lieut. Col. Alfred E. Bradley, Medical Corps; Col. W. A. Simpson, Adjt. General, dept.; Miss Edna Hunt; Maj. Gen. Thomas H. Barry, Commanding Eastern Division; Mrs. Richard Slee; Col. William G. Haan, Chief of Staff; Col. William M. Black, Chief Engineer Officer.

Sitting, left to right: Col. John B. Ballenger, Chief Quartermaster; Maj. Albert E. Truby, Medical Corps; Lieut. Col. Alfred M. Hunter, Inspector General's Department.

at the Gettysburg Veterans' Reunion, last July.

The Slee Laboratories are located but a few miles from the Third Field Artillery Camp at Tobyhanna, Pennsylvania, Major Charles P. Summerall commanding. This makes it a convenient place for army officers to drop in, something that all of them seem to enjoy doing.

During the visit of General Barry and his staff at Swiftwater, light luncheon was served at Dr. Slee's home by Mrs. Slee and Miss Hunt.

OUR OWN MUNCHAUSEN!

I do not profess to be able to excel the celebrated Munchausen in any of his famous stories, but that story in December *CLINICAL MEDICINE* about the woman who swallowed her watch which was subsequently recovered from her stomach where it was having the time of its life, is a good one, and reminds the writer of one he once heard when a youngster related by an old sea captain.

He said that on one of his voyages across the Atlantic an immense shark was observed following his ship day after day, and getting outside of every morsel of food that was thrown overboard. They had a number of fowls on board, and one day an old hen escaped from the coop and flew overboard, disappearing down the shark's gullet. Several weeks afterwards the shark was captured with a hook baited with a piece of salt junk, and on being handed on board and cut open, what should they discover but that same old hen with a brood of chickens which she had just hatched out!

Next!

JUNUS.

— Connecticut.

RADIUM RESOURCES IN AMERICA

It will be of interest to readers of *CLINICAL MEDICINE* to know that twenty-seven mining claims in Colorado have been secured by the National Radium Institute, an incorporated body headed by Dr. Howard A. Kelly, of

Baltimore. These claims are located in Paradox Valley, said to be the richest radium-bearing region in the world. The Institute will conduct experiments in extracting radium in Colorado, in a plant to be erected near the mine. The scientific staff of the U. S. Bureau of Mines will direct the technical operations.

The special purpose of this new institute is, to carry on a series of extensive experiments as to the therapeutic value of this substance. The clinical-research side of the work will be conducted, it is reported, in the General Memorial Hospital of New York City, to which a sufficient quantity will be supplied for experiment and for actual use in treating disease. Any surplus will be distributed to Johns Hopkins and other hospitals. None is to be exported, and probably none sold.

There are some who believe that in radium we have the solution to the grim problem of cancer. While, perhaps, this is too much to hope, nevertheless it is encouraging to know that the full possibilities of this strange substance are to be studied, and, if possible, determined.

We shall have considerable material of interest concerning the therapeutic application of radioactive bodies during the next few months. We also hope to get the experience of our readers in this interesting field.

BICHLORIDE OF MERCURY POISONING

A woman, 32 years of age, took two bichloride of mercury tablets in mistake for a popular laxative cold tablet. Realizing her error, she drank a pint of mustard-water, then sent for me. She had vomited rather freely, as I learned, but complained of intense burning in the stomach and of a strong metallic taste in the mouth.

After getting her to take the white of six eggs, I gave a hypodermic injection of apomorphine, and emesis was prompt. More egg-white was given, and this was repeated for two hours every time she vomited. She felt exhausted and weak, but the burning sensation in the alimentary tract was markedly lessened. After that, bismuth subnitrate was given in milk freely, and this shortly was followed by two tablespoonfuls of castor oil. Mercurial gingivitis and salivation were marked for a week, but recovery was uneventful.

R. J. SMITH.

Bancroft, Ida.

[Physicians ought to do something to stop the use of bichloride of mercury as a *popular* household antiseptic. For physicians, it is a valuable remedy; but we doubt if it should ever be placed in the hands of a layman, for any purpose whatever. "Familiarity breeds contempt," and the person who has the deadly stuff around is likely to become careless with it sooner or later. The box of tablets some day or night is left on the bureau or on the shelf in the bath-room, and since, in the dark, it *feels* exactly like the box which contains the household supply of aspirin, phenacetin or "laxative cold tablets," it is the easiest thing in the world for some unfortunate member of the family to pick it up and bolt the poison without taking time to taste, smell, or think.

One of our correspondents, commenting on this matter in a personal letter, compared the carelessness of the individual accustomed to these household poisons with that of the workman handling dynamite. "When up in Alaska," he writes, "I saw something which illustrates the degree of indifference resulting in such cases. I saw a fellow sitting on a keg of dynamite, and with his right hand he struck a match on that keg of dynamite with which he lighted the pipe held in his left hand. Fortunately nothing happened—if it had, his body would have been blown into pieces as small as the particles in a fog, and I would not be writing this letter to you."

Now, not even a doctor would think of handing out sticks of dynamite for the unskilled to keep around the house. Why, oh why, then, should he advise or prescribe for general use such a dangerous thing as bichloride tablets? Whatever the purpose for which it is intended there are safer drugs which are equally efficacious, and it cannot be denied that there are many proper uses for antiseptics in the household. The ordinary cuts, bruises, abrasions, burns, and minor infections, in which the condition is too mild to demand a doctor's care, are almost universally treated at home. Antiseptics are also used in gargles for sore throat and for vaginal cleanliness in leucorrhea. Almost every man who goes hunting or fishing carries along a supply. If the people must use these things why not teach them to use remedies that are safe. For instance, hydrogen peroxide, boric acid, and proprietary antiseptics like listerine meet the ordinary indications, while such a remedy as chinolol, which is as powerful an antiseptic as bichloride of mercury and is more pleasant and more satisfactory in every way than that

perilous corrosive poison, can be carried or left about with perfect impunity and used absolutely without fear.

While we do not favor the constant appeals for more law, more law, in everything concerning the doctor, we do believe that he should be made to feel his personal responsibility in such matters. He should teach the people the danger of poisons of all kinds, and never administer or prescribe them—leaving them in the patient's hands—except in case of dire necessity. When bichloride of mercury really should be used and of course it has a distinct place of its own—we would strongly advise the selection of the coffin-shaped and corrugated bottles now on the market; should these fall into the layman's hands the danger of accidental poisoning will be greatly reduced. —ED.]

ANESTHESIA NUMBER OF THE ANNALS OF SURGERY

Any physician who is especially interested in anesthesia should secure a copy of the December number of *The Annals of Surgery*. Not only is it about double its ordinary size, but it is also devoted almost entirely to this subject. Papers are contributed by Gwathmey, Connell, Parson, Cunningham, Cotton, Bainbridge, McMeehan and others.

LOBAR PNEUMONIA: SEVENTY-FIVE CASES

So much has been written upon this subject, and so much of it has been said over and over again, that I will be brief and, I trust, practical in what I shall present. I shall omit altogether the discussion of pathology and special symptoms, confining myself to the consideration of average cases as seen by a general practitioner in a country practice. Of new things I have little to offer, but I shall write some things that I have never seen in print, either in textbook or journal.

In this section, central Kentucky, most cases of pneumonia occur in the late fall and early winter months and in the early spring. Always when there has been forty-eight hours or more of cool wet weather, at these periods of the year, there will be more or less pneumonia. This atmospheric condition lowers the resistance of the human organism to the pneumococcus, which, being present in the respiratory tracts of a large percentage of healthy persons, is ready to take advantage of this systemic depression.

Under these circumstances, people fall ill, with aching backs, chill, high temperature of sudden onset, headache, and pain referred, in adults, usually to the region of the nipple of the affected side, and, in children, to the costal margin, though frequently they also refer the pain to the mammary region or to some other point in the chest.

I have seen a case of pneumonia in the lower lobe of a child's right lung diagnosed as appendicitis. In this case, there was board-like rigidity of the muscles of the right side of the abdomen.

At the onset, there frequently is vomiting, followed in a short time by some epigastric tenderness and more or less distention of the intestines. Constipation is the rule. I have not seen diarrhea in a single case.

The respiration rate may be anywhere from twenty-four to sixty in adults and thirty to seventy-two in children; expiration accompanied by an audible grunt, as a rule. The pulse rate usually is out of proportion to the temperature or respiration and may vary markedly in either direction.

The first indication that the physician usually wishes to meet is the severe and exhausting pain felt upon inspiration. There are many ways to do this: hot packs, cold packs, blisters, poultices, liniments, dry cupping, leeching, antiphlogistine, morphine hypodermatically, besides a host of others. But, best of all—safest and surest of all—is the *adhesive strip*.

Apply the adhesive bandage in the following manner: Suppose the disease is in the right lung, as it is most often in unilateral cases. Turn the patient upon the left side, and stand at his back. Strip naked the affected side, from waist line to arm-pit. Take a spool of zinc-oxide adhesive plaster, one inch wide, and begin barely to the left of the median line in the back and draw a strip tightly over the ribs one inch above the costal margin at the axillary line to a point one inch to the left of the median line in front. (This must be done on forced expiration for adults.) Pass the hand gently over the strip until it adheres firmly to the skin. Then cut off. Next apply another strip in exactly the same manner three inches above the first one, again being careful to draw it tight on forced expiration. In bilateral cases, do not hesitate to strap both sides.

What does this adhesive strip accomplish? It prevents an inflamed mass of lung-tissue being alternately stretched to the limit of chest expansion and then compressed to the limit of chest contraction twenty-four to

sixty times per minute. It *relieves pain*, prevents extension of the disease, and hastens recovery.

The adhesive bandage is worth more than any other single measure that I have seen used in pneumonia. It meets the first, and greatest, requirement in the treatment of any inflammation, which is, "Put the part at rest." I have used it in seventy-five consecutive cases, and only three times have I found it necessary to give an opiate to relieve pain.

Now start medicinal treatment, beginning with calomel and podophyllin. To adults I usually give calomel, gr. 1-2; podophyllin, gr. 1-12; sodium bicarbonate, gr. 1-2; repeating this every hour until five such doses have been administered. Six to eight hours after the last one has been swallowed an active saline laxative is to be administered, preferably in hot water.

After the saline has moved the bowels freely, begin the administration of the combined sulphocarbolates, two standard tablets every two hours. These tablets are to be continued throughout the course of the disease, leaving them off only when giving purgatives or laxatives, but beginning again after free bowel movement. By means of these drugs the abdomen must be made as nearly flat as possible, and kept so.

In the treatment of the pneumonic condition proper three drugs, aconitine, digitalin, and strychnine, stand preeminently above all others—and the greatest of these is aconitine. Digitalin is next in usefulness. With the first dose of calomel and podophyllin, give a granule of aconitine, and, if either sound of the heart is dull, give a granule of digitalin also. Give both together or singly, as indicated, but always "to effect." By "effect" I mean reduction of the temperature to 100° or 99.5° F. Then substitute the dosimetric trinity (aconitine, digitalin, and strychnine arsenate) for the aconitine, or for the aconitine and digitalin, if you happen to be giving both together when the temperature falls to the desired point. With the dosimetric trinity the temperature can be held at this point until the disease has spent itself.

The standard granules of aconitine may be safely given, with or without digitalin, as indicated, fifteen minutes apart, to effect or until the patient complains of tingling of the tongue or lips. Then increase the interval to thirty minutes and continue until the tongue or lips tingle again or the temperature has reached the desired point. Then give the Posimetric trinity granule every hour until the temperature is normal, and thereafter

every two hours for twelve hours more. The administration of these drugs is not interrupted by the simultaneous administration of purgatives, laxatives or intestinal antiseptics.

When the temperature has been normal twenty-four hours, remove the upper adhesive strip. Twenty-four hours later remove the others.

The diet in pneumonia is the same as in typhoid fever.

Patients must be kept in bed, without pillows, throughout the disease, and they should not be allowed to sit upright earlier than seventy-two hours after all fever has subsided. Convalescence requires the same management as in most other febrile diseases. Tonics, such as the hypophosphites, triple arsenites, glycerophosphates, and the like are indicated.

With the above treatment and management, the average duration of pneumonia is cut in half, and termination by crisis is practically unknown.

ALSON BAKER.

Dreyfus, Ky.

[When Dr. Baker submitted his article for publication, he wrote us that it gave his "experience in treating seventy-five cases of the disease, without a death." We wrote him at once, and asked that we might state that fact, since it certainly added weight to the methods he was employing. In his reply, a week later, he answered: "Yes, you are at liberty to quote from my letter, but you may make the number of cases treated as outlined seventy-six, instead of seventy-five, without a death. When I finished the article I had under treatment a patient suffering from pneumonia, a 13-year-old boy, both his lungs being involved. He has now recovered."

Now, it would be foolish for us to claim that every case of pneumonia can be cured; but, really, when men like Doctor Baker report results like these—and many are getting results almost as good—are they not worth considering carefully—worthy of investigation? We think so.—ED.]

MALARIA TREATED WITH SALVARSAN IN HONDURAS. YELLOW-FEVER EXPERIENCE

Through the kindness of Dr. S. M. Waller, chief surgeon of the Hospital del Norte de Honduras, I paid this institution a visit and witnessed an intravenous injection of arsenobenzol for immunizing a patient against



INJECTING SALVARSAN IN PERNICIOUS MALARIA

Standing, right to left: A native; Dr. I. Jones; Dr. T. H. Standlee; a native physician; an attendant. Dr. S. M. Waller sitting

malaria. (I enclose a photograph.) The results are remarkable. This man walked to the hospital and returned with us and continued his work of laying concrete floors.

The arsenical solution is thrown directly into the vein, care being taken not to get any on the outside, in which case it becomes very painful. This remedy is used in chronic malaria, with the best results and with no other remedial agents.

This hospital is rarely free from cases of malarial hematuria. One patient, whom I saw, came from Tela, on the coast, and the case was a very severe one. They never let one of these patients die if he reaches the hospital in a reasonable time after the onset of the attack. The method of treatment employed has become almost specific, and is as follows:

Administer 30 grains of sodium hypsulphite and repeat this dose every two hours until the urine clears up. Then use four Warburg's pills (without aloes) every two hours for one to two days. When urine is clear, also give 1-3 grain of emetine hydrochloride, twice a day for two days, by hypodermic injection. Use no quinine whatever. "If we do, we kill our patients," Doctor Waller says.

Malaria is somewhat different here from the malaria in the southern states. It is more intense. The infection is at first manifested by malaise and drowsiness; the patient wants to sleep all the time. The natives have learned to take large doses of quinine sulphate when this feeling comes on. When a physician is consulted after the onset of fever, quinine is employed hypodermically in large doses—sometimes 60 grains in thirty-six hours.

At this writing I know of no place in the tropics that is infected with yellow-fever, and an extensive outbreak anywhere in tropical Central America is not anticipated, because they have been "burned" with it until they are ever mindful of its approach. But it may break out again even in the United States, and some observations concerning the Honduras epidemic of 1905-06 are very worthy of note.

Dr. S. M. Waller came to San Pedro Sula from Alabama, and has been a resident of this city ever since. The yellow-fever started at Puerto Cortez and almost immediately appeared in San Pedro, a city of 7000 population. A *bando* was read here one afternoon, that twenty-four hours would be given for all to leave who desired, after which the rest

must remain. I will now let Doctor Waller finish the story:

"I chose to remain—I was young and had very little money. We had the yellow-fever to a finish. Before the mosquitoes were all killed there were 2500 cases, with 800 deaths. I had the disease myself, and they had made my coffin. On the fifth day a neighbor came into my room and said a friend of mine had died and needed my coffin. He got the coffin. *Muchas gracias!*

"I do not desire to enter into the history, etiology, and prophylaxis of this disease, because it would be a waste of space; still, a few of my observations during that siege, and which have never been printed, may do somebody some good.

"The most important thing about the management of yellow-fever is its early diagnosis and its early treatment. Today, if I were to see a person 'fall' in New York City, I think I could diagnose the attack immediately, even if it were the only case in the world. I rely mainly on the odor, and a 'smell' is hard to describe. It is more than anything like the odor given off by the native Honduran cedar while in bloom. Still, you have none of that with you just now to smell of. It is very pungent and seems to burn your bronchi. This odor comes from the perspiration and breath. Patients usually 'fall' in the afternoon, after 4 o'clock, with a slight chill and a temperature running up to 104° to 105° F.; but, strange to say, the pulse is invariably 120 per minute when the patient first 'falls,' and never over that, regardless of temperature. The eye is a peculiar bright-red, while the patient watches your every move. The tongue is bright-red on tip and edges, with a light coating in the middle. Headache, backache, and restlessness also are present.

"Almost anybody can diagnose yellow-fever when the patient is about ready to die; but now I am going to tell you why an early diagnosis is so important. If you don't get the fever down to 100° or 100.5° F. during the first twenty-four hours, the patient probably will die. If the fever remains at 104° F. for the first twenty-four hours, he certainly will die on the fourth day, with a subnormal temperature and the other well-known symptoms. After death the temperature often rises to 100 degrees, and a yellow 'veil' starts at the head and rapidly spreads downward. The chest, to about the fifth rib, is as yellow as a bright orange and in a crescent shape like a short bil.

"I cured 95 percent of my cases after losing

the first few and learning how to treat the malady. This was my treatment. First, I order 1 dram sodium bicarbonate and 6 drams of epsom salt, mixed and divided into three powders. One of these is administered every hour, dissolved in hot water.

"About the fourth hour, I give at one dose a mixture of 4 drams olive oil and 6 drams castor oil. As soon as free catharsis is produced give three or four hot enemas, about two hours apart.

"Begin as soon as possible with strong and reliable diuretics, such as spirit of nitrous ether, potassium acetate or potassium citrate. In conjunction with this internal treatment, I order hot mustard foot-baths every two to three hours, and hot vinegar fomentations. Everything used internally or externally must be hot, to assist in producing perspiration. Do not give anything cold.

"The patient's appetite is absolutely voracious and uncontrollable; but, if he eats, he will surely die. About the fifth day I give milk and water, equal parts, one teaspoonful every hour.

"Remember! Do what you can between 'the fall' and the same time the next day!"

This is Doctor Waller's experience with yellow-fever.

T. H. STANDLEE.

San Pedro Sula, Honduras, C. A.

THE INJURED FINGER

We have just received from Dr. J. MacDonald, Jr., of *The American Journal of Surgery*, a large photogravure called "The Injured Finger." This represents a doctor dressing the finger of a little boy from the street, whose face shows a good deal of distress. Two other little boys look on with interest and sympathy.

This is one of the most human pictures illustrating the doctor and his work that we have seen. It is just the thing to have nicely framed and hung in your office. If you are interested, write to *The American Journal of Surgery*, New York City.

THE BUSINESS SIDE OF THE PHYSICIAN'S LIFE

I wish to make a few casual remarks commendatory of your series of articles on the business side of a physician's life.

For years I have thought much on this subject. I have wondered that so little practical attention has been given to it by our

leaders and teachers in the profession, and have marveled with astonishment at the systematized ignoring of a subject that was of such vital importance to the success, not only of individual members of the profession, but also of the profession itself.

How can a physician or surgeon make a pronounced success without the materials with which to do it? How can he provide the ample equipment necessary for present-day practice? How can he acquire the post-graduate instruction necessary from time to time in any progressive man's life without an enabling income? How can he travel, and witness the methods and work of other physicians and surgeons, without being in a sufficiently independent position to permit of the necessary expenditure of time and money?

It is one of the absurdities of medical tradition to think that he can do so; to think that he can be able and progressive and at the same time ignore the business aspects of his life.

So far as I know, medical colleges and universities have from time immemorial taught their students about medicine and surgery; but they have studiously avoided instruction along these lines.

We of the profession spend much time and money every year attending various society meetings and teaching each other all we know about the treatment of disease but never teaching each other anything about this vital question. We pursue this anomalous and absurd position to the ultimate. As a profession we stand almost a laughing stock in the estimation of the public in this respect. They think us childish in that light, and justly so.

A lay friend of mine takes great delight in relating, on all opportune occasions, the following anecdote at my expense:

On a dark and rainy night a tired physician was laboring over his books. His door-bell rang and a stranger entered.

"Doc, what do you charge for making a call?"

"Two dollars," quoth the amiable doctor.

"Well, have you a vehicle in which you can make the call?"

"Yes," said the doctor.

"All right," returned the stranger, "I'll go along with you."

The doctor closed his books and his desk, went out into the barn and got together his horse and buggy, gathered in the stranger, and started for the call under his guidance. Arriving at the destination the latter got out

of the buggy, handed the doctor a two-dollar bill and said "Good night."

"Well, how about the call; don't you want me to see some sick person?"

"Not at all," said the stranger. "A hackman wanted to charge me five dollars for this trip and I thought you would do it for less. Thank you very much. Good night."

The moral of this is: If we as a profession persist in placing ourselves in so lowly a position with regard to money matters, we get the same estimate placed on us by the public. I sympathize with the public's position, not with that of the profession.

BRANSFORD LEWIS.

St. Louis, Mo.

[That doctor was lucky—he got the money! Ordinarily he would have had to put the charge on his books, and if he was fortunate he might get his pay in six months or a year. However, he might never get it. It is safe to say that after the grocer, the butcher, the harness maker, the milliner, and other tradesmen had all been paid there would not be very much left for him. Of course the others would all receive their pay first.

As Doctor Lewis so forcibly points out the doctor's ideas of business are generally "rotten"—no other word seems quite strong enough. CLINICAL MEDICINE purposes to do everything within its power to make them better. We shall keep on advocating the betterment of the doctor himself, the betterment of his methods, and try to help him to make more money. That is one of the big tasks we have set for ourselves for this year; and, we need all the help that everyone of you can give us.—ED.]

WOMAN PHYSICIAN WANTED

A woman physician is wanted for the Presbyterian Hospital and Dispensary at Tsinanfu, North China. This is a city of about 100,000 people, situated 300 miles south of Peking. The staff of the Presbyterian Mission stationed at Tsinanfu includes nearly a score of American men and women, who are engaged in medical, educational, and evangelistic work.

The province in which Tsinanfu is located is very densely populated. In the 55,970 square miles which it contains, there are over 38,000,000 people. To care for the religious and medical interests of this vast population, there are only 250 missionaries of all denominations. The opportunity is a great one. The physician taking this position will work

at the Boyd Hospital for Women, which was opened in 1899 and now cares for more than 9000 patients yearly.

Anyone interested should address Wilbert B. Smith, Candidate Secretary, Student Volunteer Movement for Foreign Missions, 600 Lexington Avenue, New York City.

ELECAMPANE FOR COUGHS IN HORSES

I note what the article quoted from *The Eclectic Medical Journal* has to say about the efficacy and virtues of elecampane, or inula helenium, in winter coughs. The writer takes this occasion to state what may, perhaps, be of interest to some of your readers who still use horses in making their professional calls, that he has found elecampane an invaluable remedy for troublesome coughs in horses, occasioned by colds. My method has been to mix an ounce of the root (green when available) chopped finely and mixed with oats or mixed feed, given once daily.

GEO. D. STANTON.

Stonington, Conn.

[We don't know much about horses, but we do know that elecampane, or its camphoraceous active principle, helenin, is a valuable remedy in the lingering coughs following severe colds or grip. The indications for the remedy, according to the American Dispensatory, are "cough of a teasing, persistent character accompanied with sub-sternal pain and profuse secretion."—ED.]

THE CARE OF THE DOCTOR'S HORSE

The following suggestions are intended for physicians in whose communities there are no qualified veterinarians, and the advice given is of a rather general character. It is not intended to be and does not attempt to give specific detailed help. My only aim is to present a few items of practical service to the many country doctors who read *CLINICAL MEDICINE*.

If your horse is rather thin, its coat rough, and it is not doing well, one of several things may be the cause of the trouble. For instance, it may be owing to unsuitable or a lack of suitable food. The best diet for the animal used for driving is whole oats and bright timothy hay. Another cause of this trouble is insufficient exercise. Keep the animal in a roomy box stall with a low manger; this is the best place for the doctor's horse.

Another cause for poor condition is bad teeth. They need not necessarily be carious;

look out for "enamel points." These are sharp projections found on the outside corners of the upper molars and the inside corners of the lower molars. The upper points wound the cheek, while the lower ones lacerate the tongue. Naturally, this trouble interferes with proper mastication and digestion. The horse's teeth should be examined once a year—and remember that young horses, those from four to seven years old, are just as likely to have this trouble as the more venerable equines.

If the teeth are in good condition and the horse is fed regularly, it should suffer very little from gastrointestinal trouble. However, an occasional feed with bran is beneficial and a little ferrous sulphate and calcium phosphate given occasionally to a young, growing animal will aid nutrition decidedly.

The tonic most easily administered to a horse is Fowler's solution. Not only does this act in the manner of a general "condition powder," but it is also a vermifuge and serves to expel the large round worms. Give it in teaspoonful doses with the feed twice a day, for several weeks.

After a long, hard drive, always rub your horse vigorously over the extremities and then blanket it up. Not only is this a good stimulant to the beast, but is an excellent tonic for the man. If the horse persists in shivering, showing symptoms of incipient pneumonia, remember that 4 ounces of spirit of camphor and 1 ounce of aromatic spirit of ammonia mixed with a dozen well-beaten raw eggs (given as a drench) often will abort the attack.

If your horse has colic (a rather broad term), give it 1 to 3 grains of morphine, or about eight tablets of H-M-C No. 1 (human dose). This should be dissolved in several cubic centimeters of water and administered by injecting under the skin of the neck just underneath the mane. A little tincture of iodine applied over the point of injection will often prevent abscess formation.

The morphine combination quiets the animal, so that other remedies may then be given. For instance, 2 ounces of oil of turpentine, 1 ounce of sulphuric ether, and 1-2 ounce of oil of eucalyptus, mixed with a pint of linseed-oil. This relieves the tympanites, while a warm soap-suds enema containing a handful of salt unloads the lower bowel.

A good remedy for spasm of the bladder and muscles of the neck and urethra is 1 or 2 ounces spirit of nitrous ether.

"Scratches," or "grease-heel," is a very troublesome disorder in the winter. Care-

fully clip off all the hair over the area and wash with luke-warm water containing castile soap and a teaspoonful of carbolic acid to the quart. Dry thoroughly, then apply balsam of Peru. Cover with absorbent cotton and bandage. Keep this bandage on for three or four days, and later apply zinc-oxide ointment or olive-oil.

For sore or sprained tendons, use a hot saturated solution of magnesium sulphate with carbolic acid (a teaspoonful to a gallon), applied as a pack. Later, rub in soap liniment or tincture of iodine.

If these suggestions are of value to physicians who are far away from the buzz of automobiles and who must rely upon their faithful horse or team in their daily routine, the purpose of this article will have been fulfilled.

E. T. BAKER.

Moscow, Ida.

[Doctor Baker, who is assistant state veterinarian of Idaho, has given us some valuable points, which will be appreciated by many a country doctor. We hope he will "come across" with more.—ED.]

SPECTRAL NIGHTMARE DREAMS IN THE LAND OF THE AZTECS

Fourteen months have passed into the storehouse of eternity since photographs were taken for the January, 1913, number of *CLINICAL MEDICINE*, ushering me along deeper into the fifth score of this graphic pilgrimage, still with healthful vigor in aggressive activity. This fraternal reminder calls up anew the precious value of guarding the sterling treasure nature lent you all, that would multiply your octogenarian practitioners surprisingly, even from among some of those who fall by the wayside ere half that measure has been attained.

But, alas! the foibles and follies of the vainglorious potency of your imperious resources are hastening your country along the perilous trend of Destiny, that will absorb your superfluity of doctors and demand increasing supplies in the havoc of war with Japan, and Mexico and other Latin-American peoples.

Such shambles of martial slaughter are in active preparation, inevitable as the relentless march of evolution. The people of Japan are drunk with the vanity of sanguinous achievements, while Mexico is seething with a consuming thirst for vengeance, that vibrates a sympathetic chord to the remote hamlets of Central and South America.

Those Japs dream of conquest of territory for their swarms that must quit their overcrowded hive, their flimsy subterfuges for war notwithstanding. The once fairly smooth cicatrices of the wounds of Mexico, inflicted by the American conquest of 1847, have been torn off by the violent inflammatory declamations that have characterized the three past dark and bloody years; and those wounds now bleed afresh and rankle anew with acute torture; while unmerited favoritism sold or lent Mexican rebels in the United States—although individual contravention to the policy of the government, which is regarded covertly culpable—is another goading thorn of resentment.

Ere all such disquieting tirades were launched amid a feverish populace, tensely strung by the dubious menace of revolution, the average young Mexican, save some students, knew little and cared less about what was deemed dead history. The often unreasonable concessions granted American enterprises provoked little criticism, the great majority of the people bidding enthusiastic welcome to foreign capital that was vibrating the whole country with prosperity. Now the enormous sums that must be paid, soon or late, for war damage to foreign investments and their owners or agents augment the poignant hate cherished by all classes for the Yankees.

It is painful to present you all the deplorable truth unmasked. The rude severance of amicable relations between your people and those of Mexico is a universal calamity, beyond any rational measure of computation. Yet, it were futile to dream of unattainable peace.

The die is cast and the seal set on the implacable attitude of the Mexican people—a lesson persistently taught and tirelessly conned—the inexorable ghost of American intervention daily and nightly parading a lugubrious procession before the elastic imagination of these hapless people; while the alarmful vociferation of press and declaimers reverberates the tocsin, "The Yankees come to take from you the remnant of your birthright they left you when plundering you sixty-seven years ago!"

The preponderance of intellectual thoughtfulness hold no modicum of doubt of such termination of an unsuccessful death-grapple with rapacious invaders, coming under the specious pretext of protecting their imperiled countrymen—an enterprise alien to native peace and common weal, nowise analogous to the American intervention in Cuba.

And this raw-boned and bloody ghost of American intervention, for the existence of which the American people and press are measurably responsible, has caused American residents to suffer more damage than the armed factions have inflicted, due to panicky flight from this country, while not seldom without the actual provocation to justify such precipitate abandonment of interests.

Unless perverted and damnably falsified by Mexican editors, the press dispatches—published as a manifesto of an American colony (on board a warship at San Diego, California) that were forcibly deported from the Yaqui Valley, in Sonora, by American officers—denying that there had been any damage done its members, by federals or rebels, and no fears entertained of such overt acts, eloquently negative the urgent necessity of much of the American exodus from Mexico, where moderate discretion might have averted all danger.

However, American residents and interests were almost as a unit hostile, tacitly at least, to every revolution that has been prosecuted; certainly a grave provocation to rebels, when such sentiment was carelessly guarded or openly expressed. The average American is not an overdocile specimen under aggravating circumstances, such as when being defenselessly confronted by armed jailbirds and ignorant peons—the great body of private rebels. Then, often, the glib tongue blurts out some uncomplimentary criticism, which under the influence of intoxication the hearers resent later in the drama.

A very large contingent of Sonora rebels is composed of savage and semisavage Yaqui Indians; a circumstance that should have intensified the peril of American residents in that belt, but which failed to materialize, if the San Diego news is correct.

Too much stress is put on the practical outcome of the pending election,* as a pacifying factor. Here, for example, is the most moderate belt of the Republic, the great majority of the public would have immolated Felix Diaz and Gen. Victoriano Huerta immediately after the Madero tragedy; yet, now the same people will vote for Huerta for president. This is due to the inflexible attitude of Huerta in the strained relations with the United States. Intellectual Mexico wants a man who will yield absolutely nothing, save when the last ditch has been carried; and Huerta is regarded as the only available man equal for such requirement.

The Catholic is the predominating party

politically; yet, it will be swept off its footing by anti-American influence; and Huerta will be elected, in all probability, as the military vote will be polled for him beyond peradventure. Most of the Catholic contingent here will be polled for Huerta, on his brief record as chief magistrate and unquestioned military qualifications, Gamboa not being a military man.

However, even hotheaded Mexico dreams not of launching hostilities with Uncle Sam, save in defensive combat, should he invade this country, or in alliance with Japan, the Latin Americas, and whomsoever else may embark in the intrepid enterprise. The Japs constitute the popular Mexican fad, even though Japan may have hinted at no hostile arrangement with Mexico.

The nonrecognition of Huerta by the United States and the facility with which rebels have secured arms and ammunition from American sources have embittered even pacifically neutral Mexicans of material property against the American manipulation of the controversy. Had Huerta been recognized without vacillation, the revolution would have terminated in short order; and American sentiment domiciled here was almost a unit in favor of such recognition, as the short and sure alternative to protect life and property of Americans exposed to the peril of lawless warfare.

Under such circumstances, we cannot pause to scruple about hands reeking with blood unlawfully shed; for human life has been amply cheap under the broad canopy of military necessity and public safety, not counting vengeance and retaliation, so elaborately in evidence, even in remotely sequestered hamlets hereabouts. The slaughter of Mexicans out of hostile combat would sum an appalling total were accurate figures obtainable.

Mexico has an army of more than 100,000 well-trained and effectively disciplined men, inured to the trying hardships, privations, and exposures inseparable from arduously active campaigning. There are 2000 of them in this sickly belt, wading marshes and lagoons, and climbing mountains covered with jungles impassable without the aid of the machete, and, without tent, oilcloth or cooking-utensil, in the downpour of drenching rain that rarely falls less than four to ten hours in the twenty-four, sleeping on the bare wet ground through it all.

Such are the conditions and the foemen American troops would encounter in the districts of Mexico that the native armies would

*This was written in October.—Editor

select for the most part, regions where relentless nature would be an unsparing ally, before which invading hosts would be decimated, with bugle note and hissing ball unheard. There are long stretches of country in which the water of each day's march would prove more deadly than the ambushes of a legion of a hostile army. The lovely healthful route from Vera Cruz to Mexico City, replete with crystal fountains and leaping cascades of sparkling water, over which the American army passed, obtains nowhere else in Mexico where military operations would be prosecuted. The same walkover to aggrandizing victory as that of yore will nevermore be repeated. Mexico learned a defensive lesson in that hapless conflict.

The Mexicans, singlehanded, dream not of final victory over the United States, and would not thus go to war save in self-defense. Yet, they would strive to be vanquished at a mournful price to invaders; and such war of invasion would cost the United States what the civil war entailed in men and treasure.

It were far better that the United States abandon all Utopian idea of a liberal republican government of the Mexican populace. As I have affirmed several times before, in the pages of medical journals, nothing less stern and pressing than the government that was established and maintained by General Diaz will assure peace, order, and prosperity in Mexico; and even that government was every whit as good as that of the United States. I lived under the Diaz régime every day of its existence.

The admirable conduct of federal troops, committing no depredation and paying merchant and ranchman alike for whatever asked, as well as their intrepid courage against overwhelming numbers of rebels, have powerfully contributed to make them appear, in this section, the champions of law and order, as well as to raise General Huerta high in popular estimation. Rebels and their belongings met less respect, under treatment you may deem barbarous—yet the lessons were those taught by civilized General Sheridan in the Valley of Virginia and of General Sherman in Georgia, and adopted by the federal troops of Mexico as models.

Seven hundred rebels lately attacked a lieutenant and 30 men in the town of Cardenas, not far from here, the latter defending themselves from the upper story of the brick town-hall. After three days of combat, 19 men remained with their wounded lieutenant, refusing to surrender, when 250 relief reinforcement appeared from three sides. In

ten minutes there were 150 dead, 135 wounded, and many rebels prisoners.

A few days later a federal lieutenant and 15 men were guarding 25 prisoners on a little river steamer. Learning, at a landing, that a body of 150 rebels was marching through a banana plantation near by, he left three men with the prisoners and took position, from where he poured such a withering fire that the rebels fled, to take refuge in buildings of the Alvarado plantation; but were so hotly pursued, they plunged into a lagoon where a current that the best swimmer could not stem swept along. Of this party, 48 dead from gunshots remained behind; the rest were completely annihilated in the water. None of the federals had sustained even the slightest wound.

Reasonable auspices indicate that we shall see no more besieging nor even raiding parties of rebels in this long-infested region, as the marauding industry has lost most of its attractiveness as well as erstwhile sympathizers. Most of the peons who lived through the crisis have returned to the places they abandoned on the plantations to earn homesteads fighting landowners.

I am the only doctor who faced the music from first to last, even my friend, Doctor Maldonado, having retired to a large city, after the bloody combat to which he and his family were exposed—a very prudent move. All the others left much earlier. There is now one federal surgeon in the district.

There has been much inconvenience and suffering in the numerous families who took refuge in the mountains to escape the power of rebels; and expense and loss to those able to go to the garrisoned towns for protection.

Now, American brothers, I have made you a crudely imperfect diagnosis of a complicated malady. I implore you to lend all possible helpfulness to mitigate, should the impossibility of cure supervene.

ROBERT GRAY.

Pichucalco, Chiapas, Mexico.

A CASE OF DYSENTERY

Allow me to report briefly a case of dysentery treated with emetine hydrochloride.

Initial attack, June 1, 1913. No pathological examination. Characteric diarrhea continued, notwithstanding exhaustive treatment with the usual remedies. Patient applied to me for treatment October 1.

I gave emetine hydrochloride, two doses, 1-64 of grain each, every two hours regularly. First effect was increased action of the bowels,

nausea, and profuse sweating. On the second day of treatment, I irrigated the lower bowel with solution of quinine, 7 1-2 grains to the pint of water, after which I injected 2 ounces of liquid plain petrolatum through a large catheter. The bowel movements stopped at once after the injection of the petrolatum. Little nausea after that. The sweating continued throughout the administration. Diet: buttermilk, brown bread, liquid peptonoids and an equal amount of elixir of lactated pepsin. Ten days after beginning treatment the patient was discharged cured.

I have no doubt whatever of the specific effect of ipecac in the treatment of dysentery in the epidemic form, for I have had similar results from powdered ipecac. But emetine is far more potent, scientific and easily administered.

From my experience, I should say that, aside from adjusting the diet and exercise of the patient, other treatment than emetine sufficiently and persistently administered is unnecessary.

D. B. JACKSON.

Greer, S. C.

[Good, but usually the emetine hydrochloride should be given in larger doses (1-2 to 1 grain daily), and hypodermatically in severe cases. But Dr. Jackson's brilliant result shows what can be accomplished, even with moderately small dosage.—ED.]

"HOUSEWORK AND SUFFRAGE"

The writer of the editorial upon "Housework and Suffrage" in your issue for November, 1913, raises a question too frequently looked at through imperfect lenses, or from a standpoint providing limited vision. To focus properly upon any material object two eyes are necessary; for a correct view of humanitarian concerns both the masculine and feminine viewpoint must be considered, and usually the feminine is overlooked.

That divine discontent which is the cause of the feminist movement today has a very real reason for its existence, and one not fully realized by either men or women. I believe it to be divine, because to my mind it precedes the next step in the evolution of the race, viz: the recognition of individual self-control, the introduction to a real democracy, individual self-government. Not the least among the causes of this discontent is the economic dependence of the housekeeper.

If what you say is true as to the value of home industry, why is it that it is not re-

spected? I reply because *men* degrade it. To encourage women to undertake it, fulsome eulogy is pronounced; but in the actual fact it is classed officially by them as unworthy of recognition. The United States Census classes such workers as having no occupation. Few are the men in the homes who have any idea that the homekeepers are entitled to more than board and clothes. They think (judging by the laws they make, which laws are the basis for action regarding the final disposition of joint property) they are generous when by will one-third of joint accumulations is given to the wife, when by right one-half is hers as a result of labor and sacrifice on her part.

Not only is this true, but in all except thirteen states in this country a mother has no claim to her child; cannot be its guardian except by special order of the court, presided over by a *man*; in some states has been declared by the courts not to be next of kin to her own child. Though working hard from, not sun to sun, but hours before and after the sun rises and sets, at a variety of occupations, each one of which constitutes a separate business or profession when taken out of the home, she has no financial return whatsoever; is treated as a perpetual minor.

In an interview with Judge Pinckney, of the Juvenile Court of Chicago, some time ago, he told me he had solved the problem for the boy, but not for the girl. He said this was to place the boy with a farmer who would give the boy something for his very own; he instanced one case of a boy who thus owned a calf, who could not be persuaded to leave it to return to the city. And I wondered whether this same sense of ownership might not be just as effective with girls. I would like to see it tried.

I listened recently to the state superintendent of schools in one of our states. He was talking on industrial education; claimed it was necessary for boys; boys needed to find themselves; girls did not. Why not? Simply because masculine ideas find for girls only one occupation eventually, and that one which brings no financial returns.

The women's Messiah will be that one who will teach men their duty to women. It will take no great persuasion to direct the energies of women to homemaking when men (not women) properly estimate its value in a substantial way. The majority of women love their homes; prefer to care for home and loved ones to anything the world could offer in exchange for its shelter; love to adorn it; to make it attractive and cheerful. Financial

independence is the only magnet to draw them aside from it. Under existing conditions, however, it is surprising to note how very small comparatively the number who fail to follow homekeeping as an occupation. If in the future it is exalted to a profession of sufficient importance to be recognized by men as worthy of financial return, it will not be necessary for legislation to require proper preparation for home duties. Women and girls will prefer this to any other occupation; the work will be less wearisome; it will not be spoken of with contempt; domestic service will be ennobled and discontent will cease.

They tell us marriage is a partnership, each partner having certain duties well defined. It is not right that one of them should appropriate all financial benefits resulting from united effort. Woman's contribution to the state (citizens) is of more importance than is man's (money). It does not so appear. Her voice is silenced; her purse is empty. Her labor is unrewarded. To make her content, reward her for labor performed by dividing with her during life the result of the united work of the partners in home life.

This is the work for woman's Messiah to perform; this the way to make homekeeping both honorable and desirable.

F. H. RASTALL.

[A fine statement of the women's side, with which we deeply sympathise, and for which we thank the writer, whose address was unfortunately missing from this paper.—ED.]

ESPERANTO: IS IT DEAD?

Not at all—nor in the least decrepit. I am frequently asked by some one, who has neither the energy nor the inclination to try to keep up with the march of human progress, what has become of Esperanto? Is anything being done about it?

While there has been no blast of trumpets announcing great events in the onward movement of a great army of Esperantists, there has been a steady and healthful growth throughout the civilized world, least of all in our own country. In America where one may travel for thousands of miles and hear nothing but English spoken, where the one great aim in life is to get money, it is not difficult to understand why the need of an international language is not more keenly felt.

To a wide-awake physician, whose profession extends over the entire world, to whom the labors of the eminent Japanese

investigator, the German chemist, or the French surgeon are equally interesting and valuable with those of his own country, it should be entirely otherwise. To us, anything that will make more accessible the results of foreign as well as domestic research should be of the greatest interest. If the reports of the discoveries and experience of the medical world were printed in one recognized world language the good resulting would be immeasurable. That this will ever be possible by means of any existing national language is simply out of the question. National prejudices and intrinsic difficulties of the national languages themselves make it impossible that one of them can ever be adopted for the purpose.

Esperanto by virtue of the nature of the language, is the only solution of the "confusion of tongues." The extreme ease with which it may be learned by natives of any country, the beauty and expressiveness of the language, together with its flexibility and at the same time exactness of expression, make it at once the most rational and practical language for international use. It is no longer an experiment, nor is it a Utopian dream. It is an established fact, a real, living, international language in daily use by thousands of educated people in all parts of the world. Many Esperantists have traveled in foreign lands with Esperanto as their only means of intercourse with the people of the countries through which they have passed.

Originated by one of our own profession, Dr. L. L. Zamenhof, we should, of all the world, be the ones to take pride in its use and adoption.

Last August occurred in Bern, Switzerland, the ninth annual international congress of the Esperantists of the world. Representatives of twenty-seven nationalities met and spent a week in the actual use of the language. Two plays were put on the stage and greatly enjoyed by those present. Services were held in the Hebrew, Catholic, and Protestant churches. Meetings of various international societies were held to discuss problems of world-wide interest. At this meeting peoples of radically different languages, customs, and religions met and fraternized as brothers. At this time occurred the meeting of the World Wide Medical Association. The next international congress will be held in Paris in August, 1914.

There has been organized a Universal Esperanto Association with representatives in "more than a thousand localities distributed

in some forty-four different countries. The object of the society is to facilitate and to develop international relations and also to create a firm bond of union between all of its members and its affiliated institutions. To this end it has created a series of services for the use of private persons, public bodies, and commercial firms, whose interests are, or are tending to become essentially international. During the year 1912, and after only a few months' existence, about 11,300 services of all kinds (of which 2,800 related to commerce) were rendered."

An official year-book is issued in January of each year. That for 1913 contained 290 pages. Representatives (or delegates as they are called) are elected or appointed in the principal localities through whom the services are rendered. Some medical literature has already been published in Esperanto and a medical journal is published monthly. Every physician who intends going abroad whether for study or pleasure should investigate Esperanto. Write to the delegate nearest to your home for information and get busy and learn the language. All inquiries addressed to the writer and accompanied by return postage will be cheerfully answered.

J. R. SCHOFIELD.

Fort Collins, Colo.

DR. SAJOUS MAKES A CORRECTION

In a recent letter Dr. C. E. de M. Sajous, writes us that in our comment upon his letter, published in the December number of *CLINICAL MEDICINE*, page 1026, we quoted him incorrectly in advising the use of physiologic salt solution intravenously three times a week. Dr. Sajous says that he cannot find where in the world he made such a statement, and if he did make it, it must have been through error, since he does not approve of intravenous salt solution in this disease.

We are glad to print this correction, although we *do* find in Dr. Sajous' great work on "Internal Secretions," page 1843, the recommendation to use salt solution intravenously in connection with adrenalin.

IODINE TO DEODORIZE STINKING FEET

Having read *CLINICAL MEDICINE* for several years and picked out many useful points, I have one to add that may be of interest to the "family."

Many times we note "a new use for iodine." I have used it in this manner many times. For four years my work was entirely railroad

work and I met with many feet injuries and many of these feet had a most terrific odor—some feet don't have to be injured to acquire this odor!

First, I prescribed a good washing, then a liberal painting all around and between toes with tincture of iodine. One application will so change a man's feet that he will be hardly able to recognize them himself, and three or four applications, given once or twice a week, will usually eradicate the odor completely. The only bad effect is that sometimes a layer or so of skin departs with the odor.

ROBERT H. GRAY.

La Crosse, Wis.

IS IT LEPROSY?

I am sending you the photograph of a Mexican woman twenty-eight years of age. I was called to see her during a smallpox scare. My first examination was made at



IS IT LEPROSY?

night by lamplight, so I thought her suffering from smallpox.

However, when the county health officer visited the woman with myself, the next morning, it was very plain that this was not variola, and we were also able to exclude syphilis and pellagra. The woman claims that she has had this eruption for one year. The hands and arms are in much the same

condition as the face, but the body is only slightly affected. She is very hoarse, but complains of no pain, the principal trouble being a slight itching. I am unable to secure any definite family history.

Can anyone tell me what is the nature of this disease? We are located on the Mexican border and called upon to attend many of the Mexican peons.

I. N. CAMPBELL.

Sabinal, Tex.

[We have written Dr. Campbell for further data, without which it is impossible to make a diagnosis, but the photograph suggests leprosy. We hope to be able to give more information next month.—ED.]

OUR LONDON LETTER

For a long time the safety of traveling in England has enjoyed a very enviable reputation, in comparison with that in the United States. Whenever a serious railway smash occurred in your country—and it has been no uncommon event—it was the fashion for the American newspapers to trot out the records of disaster for some time past and to compare them with those of the Board of Trade returns of Great Britain, greatly to the advantage of the latter. But of recent years there has been a progressive rise in the traveling casualties over here. We have had quite recently four fatal railway accidents, and increasing nervousness among railway travelers is evidenced, it is said, in the greater desire to avoid the first and last carriages in trains, and particularly in the greatly increased demand at the booking offices for insurance tickets—a precaution until recently associated only with the more timorous travelers.

The rise in street accidents, moreover, during the past decade has been so steep that at the end of 1912 a select committee of the House of Commons was appointed to inquire into the causes of the increasing number of street fatalities in the metropolis, and to suggest remedies. The committee was re-appointed on March 14, 1913, to continue its investigations, and it has recently issued its report.

From this report we learn that the number of those killed in street accidents has risen progressively (with the single exception of a fall of 20 in 1909), from 155 in 1904, to 537 in 1912; in other words, such fatalities have more than tripled in number. The injured have, in like manner, risen in number, from

10,381 in 1904, to 20,166 in 1912. An undue proportion of these accidents is ascribed to the "motor-bus," and the reason for this is not far to seek. While the motor-bus possesses all the disadvantages (from the pedestrian's point of view) of increased speed and mere mechanical control, it can be maneuvered in and out among the traffic, so that its course cannot be counted upon; in which respect it differs from the tramway, which, being confined to its tracks, can be more easily avoided by pedestrians who chose to exercise caution.

The same reason may help to explain the parallel fact that 16 percent of the deaths are due to cyclists—particularly motor cyclists. Moreover, as the motor-bus speeds are greatest and their fares lowest on routes on which they compete with tramways, they greatly increase the danger of mechanically impelled vehicles by their power of darting in and out.

The principal point of the Committee consists in recommending the creation of a special government department which is to advise Parliament in all matters relating to London traffic, this department to be a branch of the Board of Trade. Among its duties will be, to consider tramway schemes; to have the confirming authority over county-council by-laws and regulations for licensing all mechanical stage-carriages and hackney-carriages, which are to be brought under closer control by regulation of routes, timetables, and the number of stage-carriages; the establishment of speed limits for motor-omnibuses and other heavy motor traffic; the provision of more stopping-places and refuges; and closer exercise of traffic by the police. Other recommendations are speed registers for tramcars and motor-omnibuses, the endorsing of all driving offences on the license, the standardizing of motor-horns, the prohibition of dazzling headlights in lighted streets, and the order that all slowly moving vehicles shall hug the curb.

The Insurance Act continues to occasion a great deal of trouble. In some districts, particularly in industrial centers, it no doubt is working more or less efficiently by insuring a sufficient pecuniary return to attract such doctors as cannot choose where they will live; but in very many others it is productive of little benefit, much individual hardship, and a great deal of heart-burning both among doctors and patients.

In London, on October 24, the official returns showed that the number of insured

persons in the county of London, on July 14, last, was 1,505,519, and that it had been practically stationary since. Yet, upwards of 400,000 of these had not taken the trouble to choose a doctor on the panel as their attendant; which has resulted in the accumulation of a considerable sum of money, approximating \$700,000, set aside for their medical attendance and not earned by any panel-practitioners.

A dispute has arisen as to what shall be done with this fund. Some of the panel-doctors contend that it ought to be divided among the doctors on the panel pro rata to those on their lists, but eminent counsel have given their opinion that this would be illegal, and that authorities who thus distribute the surplus fund (as has been done in some country places, for nowhere have all the insured taken the trouble to select a doctor; largely because they prefer to pay fees to some doctor who has not gone on the panel) will be legally liable to make good the sums thus distributed.

The great stumbling block lies in a fact entirely overlooked by the framers of the Act, and that is, that the general practitioner has to live and pass the whole of his time in the surroundings in which his practice lies. Well-to-do districts form attractive residences, because of their social advantages. Mixed districts, such as villages and country towns, also are acceptable, because they have always a sufficiency of persons to form a congenial social circle for the doctor's wife and family.

But the purely industrial communities are such that no cultured man will live there for choice—or at least only such as are imbued with a missionary spirit, but which naturally is a small proportion of the whole—and, consequently, practice in such districts rarely is taken up except by those whose means or social connections are insufficient for a start in a more congenial neighborhood.

This has been the main reason why, while the socially preferable neighborhoods have always had one medical man for every 500 to 1200 inhabitants, most of the industrial districts have rarely had more than one to from 2500 to 6000. I know that my own feeling is shared by the majority of the doctors of my acquaintance, and that is, that I sooner would have a small practice where I should find congenial surroundings for my leisure than a large one where I could not find any such, even though I might earn five times as much.

The business man can enter such a district in the morning for his work and in the evening return home to his wife and family, where he can enjoy all the comforts of a cultured

home and meet his equals in social converse. The poor doctor, even in private practice in such a place, must stay there night and day, exiled from the amenities of life and with very scant opportunities of getting away even for a brief change. When he becomes a semi-government official, as under the Insurance Act, under such conditions his position is simply slavery in exile.

The only thing that will alter this natural, and in the case of a family man proper aversion, lies in the apparently hopeless event of a redistribution of the population, by the breaking up of the huge slum districts created by modern industrialism. And therein lies a problem of even greater importance to national economics than to the Insurance Act.

An extremely unpleasant incident in connection with the Act has occurred at Wisbech. The medical profession there largely stood aloof from the panel, so the panel was closed and a Doctor Dimock was imported as a whole-time medical officer. It is alleged that he refused to allow anyone insurable to contract out, even the servants, grooms, and so on, of the medical men themselves. He was, in consequence, politely ostracized by his professional brethren in the plan. Then followed a series of most foul and libelous letters and postcards to many members of the profession, which resulted in a criminal prosecution being brought against Doctor Dimock. He committed suicide, and a great attempt was made to work up sympathy for him as a persecuted man. Serious riots ensued in Wisbech, the police having to be reinforced from neighboring places.

Of course, with Doctor Dimock's death, the prosecution falls through, but, in a letter to the press from the prosecuting doctor, the latter asserts that he has in his possession similar abusive and libelous letters sent by Doctor Dimock to other persons while he was a medical student. The most charitable interpretation would be that Doctor Dimock was mentally unbalanced; still, it is notorious that in many places medical undesirables have been imported where the established practitioners refused to serve. "K"

CRIME AND WAR: A COMMENT

The letter of Doctor Waugh and the correspondence of others, in *CLINICAL MEDICINE*, on the subject of the title and the impending climax in Mexico's turbulent condition impresses this subject upon every thoughtful mind.

Anyone interested in current events, as they transpire from day to day, and who has followed them through a half century of life, either by reading or observation, knows that the tramp, whose name at this time is legion, was born when the armies of the late war between the states was disbanded.

The tramp became such, because when he went to his old home he found his former place occupied by another and, so, went out into the world to be a vagabond, in order by begging, to get something to eat, for he could not earn the price by work. Eager hands had forestalled him while he was fighting for his country and theirs.

Doctor Waugh suggests that the young fellows are so full of red blood that it must have an outlet, else they will explode. Better let those sanguinary chaps expend their excess of volatility by wielding a hoe rather than by cutting the throats of others as good as they.

If war is inevitable and must come, I suppose it is every able man's duty to shoulder a gun and defend his country; and I have little regard for one who will not do this. But General Sherman has said that war is hell—and he knew, and so do the desolate homes and trampled fields where his army blighted its way, and so do the mourners of the North on Memorial Day as they wet with bitter tears the billowed earth where sleep their dead, now mingled with common clay.

I am not a Socialist, nor an Anarchist, nor an I. W. W., but I question the right of anyone calling me out to be shot at in a quarrel which I had no hand in making! Still, I'd go, all the same, if my country were in trouble and needed me.

The prime purpose of any country should be the attainment of the best and highest civilization, because that condition profits happiness to its people—and happiness is the ultimate essential of human aspirations.

Peace is the child of civilization; it promotes the arts and sciences and literature; it softens the amenities of individuals, and thereby secures mutual rights between each other.

Peace ennobles a country, cultivates the fields that harvest the best and highest impulses of mankind, and scatters broadcast their bounties in all the ways of life.

War is the natural attribute of the savage and thrives in no other estate. It disregards correlative obligations, derives power and continued existence through treachery, cruelty, the infliction of physical and mental suffering, and is the antithesis of civilization.

War degrades a country. This it does by denying the splendid and wholesome oppor-

tunities to which a land is entitled by the obvious rule of justice and fair play. It destroys the prime material of a country's fabric, which is men and women, and lays waste its cultivated fields. It tears down the works of art that incline the mind to feelings of pleasure and admiration and erects in their stead repulsive figures of death and decay.

War is a relic of barbarism. It elevates a false standard of good breeding and refinement. The gruesome presence of war emblazons the streets of a city with rags, and gaunt hunger, and general destitution. It paralyzes the hand of labor, invades the home with tears and sorrow, fosters crime, and blights the spirit of enterprise, progress, and prosperity.

The demon of war inspires to deeds of anarchy, rapine, and arson. It creates the pestilence that destroys what the sword rejects. Its pollution and bitterness remain when the baleful cloud has sheathed its fierce lightnings and the raped country lies prostrate and helpless.

The price of restoration is wasted energy, because the destruction is needless; society is demoralized, and rehabilitation well-nigh impossible.

War is murder. It strikes the babe in the cradle, the goodness and beauty of womanhood, the power of manhood, and the pitiful impotence of old age.

War impoverishes alike the victor and the vanquished. The kindest emotions of reverence, mercy, and affection are crucified upon the relentless cross of ambition. Fraternal and filial love lie dead at the feet of suspicion. Along its cruel trail are smouldering homes, the ashes of an extinguished commerce, the visible phantoms of despair, and in all the land there is not a rainbow of hope, to promise a better morrow.

This is not an imaginary arraignment of war! The voice of tradition and the pages of history are eloquent with the story of its wrongs and all the ages offer not a syllable of extenuation.

I arraign the evil genius of war for turning back the dial of a country's golden days and pointing the drooping hands to the prospect of irretrievable ruin; for closing the school-houses and sowing the seeds of blind ignorance and futile destitution; and, last of all I arraign it in the name of countless scars on the escutcheons of Time whose every supplication it has disregarded and trampled (figuratively speaking) under foot.

AMASA S. CONDON.

Ogden, Utah.

Just Among Friends

IN MY work at Mudlavia, dealing, as I do, mostly with chronic diseases, I have become convinced that a great number of chronic ailments result from faulty elimination, over-eating, lack of exercise, too much tobacco and alcohol; in short, wrong living.

At Mudlavia, I have a large number of cases of rheumatism, gout, and allied diseases caused or aggravated by imperfect elimination of nitrogenized waste. A large series of the affections of advanced life find their origin in impaired elimination of nitrogenized waste. They are compensatory actions rather than diseases *per se*.

It is obvious that, in the treatment of affections originating in the imperfect elimination of nitrogenized waste, there are several points to be attended to; viz.: (1) To reduce the amount of nitrogen consumed. (2) To give large quantities of fluids and so wash away the sparingly soluble salts. (3) On no account to attempt to stop the compensatory excretory action before the normal excretion is restored. (4) To act upon the different compensating organs, setting up vicarious elimination through other channels. Warm baths, especially our mud-baths, are peculiarly beneficial. The drinking of large amounts of pure or alkaline water also is indicated.

The pain of chronic rheumatism is not inflammatory pain; for there is no heat, redness, swelling, or constitutional disturbance. It is not neuralgia; for that pain is gusty with squalls and lulls, while rheumatism is a steady, unvarying pain. Is it periosteal? No, for then there is tenderness on pressure; and the pain is distinctly worse at night. Is it an osteal abscess? No doubt many an abscess in the cancellated structure of the ends of bones has been held to be rheumatism—till at length time showed that it was something else. Is movement limited in rheumatism? Commonly so; but not always.

Intestinal decomposition, with a gas-inflated colon, may produce a pain in the precordial region that may be wrongly diagnosed as "rheumatism." Pain in the shoulder may be due to a congested liver. Pain in

the back may be due to muscular fatigue, diseased ovary or kidney, or an aneurysm eroding the vertebrae.

Take the trouble to make sure that there is nothing else on foot before you conclude that the pain is rheumatic. Examine the urine in every case and estimate the degree of urinary acidity.

Now as to treatment of these faulty conditions of nutrition and elimination. In all cases of acidemia (a high degree of urinary acidity), I know of no remedy equal to the alkalis. I give these, with intestinal antiseptics, in hot or cold water two hours after each meal; this treatment in all cases of rheumatism, gout, neuritis, and so on, with high urinary acidity.

In chronic rheumatism, then, alkalis, laxative salines and, if bowels and liver are very inactive, my formula "calpiac," for a few days. Potassium iodide and iron iodide are both of service, according as the person is robust or asthenic. A favorite prescription of mine is, equal parts of a saturated solution of potassium iodide and the English wine of colchicum; and of this from 10 to 40 minims may be given well diluted with water after each meal.

This general line of treatment in connection with our mud baths enables me to get good results here much sooner than I could in private practice.

To return to my first thought. From every human being whose body has been racked by pain; from every human being who has suffered from accident or disease; from every human being drowned, burned or slain by negligence, there goes up a continually increasing cry, an awe-inspiring cry, which no one dares listen to, against which ears are stopped by the wax of superstition and the wax of criminal selfishness. These miseries could have been prevented. We can prevent them in the future.

All diseases are preventable; or, if not so, they can be so weakened as to do no harm. All accidents are preventable; there is not one that does not arise from folly or negligence.

All accidents are crimes. There is no necessity for any man to die except of old age. It is incontrovertible that at the present time no one ever dies of old age. No such thing as old age is known to us; we do not even know what old age would be like, because no one ever lives to it. Our bodies are full of unsuspected flaws, handed down, it may be, for thousands of years; and it is of these that we die, and not of natural decay. Till these are eliminated, or as nearly eliminated as possible, we shall never even know what true old age is like, nor what the true natural limit of human life is.

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Before our generation lie a list of great undertakings of the value and profit, of which for ourselves we cannot be sure at all. The labor is likely to be too long and too great. Our cities must largely be rebuilt and built better; overcrowding must cease; the children must all be brought, somehow, into wholesome touch with the soil. The land—naturally the greatest social instrument—must be freed of the selfishness and arbitrariness of individual control and somehow made to do its proper social service. The enormous advantages of the world's gain in power and wealth, through science and invention, must be more righteously distributed. The load of the military and naval armaments of rival nations, the survival of barbarous ages, must be lifted from the shoulders of the toiling peoples.

It is, one might say, as if the streets of a town were dug up for extensive improvements. While the great work goes on, the people who live in the street suffer inconvenience and expense. They must endure, in order that not merely themselves but others later may enjoy them more. Much of the labor of our generation may even seem to go out of sight, like foundations under the ground. It is given to man not alone to obey the law which the brute creation obeys without knowing it, it is also given to man to know the law and to will to obey it; that is, to choose it and be glad in it.

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If tuberculosis is known better today, it is the outcome of the work of many, and for centuries. If it is to be exterminated, it takes the sympathy and labor of more than one person, one society, one town, one country. It demands the cooperation of all and every one.

Your ear should be taught to listen to and know the dignity of moans and coughs and stifled cries. Your eye should behold intelli-

gently and pityingly the shriveled skin of emaciation, the hungry look and the suppressed tears, your hand should know how to feel the pulse of him in the stricken, lowly dwelling and that of society besides. You should learn how the other four-fifths live and how they sicken and die.

The whole town, with its intercommunication of roads and railroads, street subways and elevated roads, cabs, stages, and sewers, is a network from which there is no escape. As sanitarian, public and private teachers, doctors and nurses, workmen and tradesmen, coachmen and butlers, cooks and maids, your grocery clerk who takes orders, your tailor who gives out your evening dress coat to be sewed and finished in the tenements full of infectious diseases, including consumption, your milliner and ladies' tailor and fashion dictatress, from whose score of working-women you are only separated by a swinging door, the mail-carrier and expressman, conductor, and your neighbor in a car, the people from unknown parts, who, with their children, visit your help in your basement or are visited by them. All of them, while aiding and serving you, may prove your enemies as some of you to your friends.

All that was so before we ever knew what a germ was, and ever since, and will remain so unless we all stand together to learn and to prevent. Otherwise someone may bring to you and yours whooping-cough, measles, scarlet-fever, typhoid fever, and diphtheria, and more. Unless you help in fighting the antivaccination backwards movement inside and outside legislatures, the disciples of it will bring you, as they have done before, small-pox. You must take a firm stand against the social evil and combat with all your power the spread of venereal diseases.

These are some of the important problems for men today, and especially for the physician. It is his duty to teach the people how to live.

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Well, the good ship Time has put into port again to take on a new cargo of good resolutions, earnest resolves, and patented schemes, before setting sail for the shores of a distant future.

Do you never feel like calling out to the galloping years to come to a halt? This breakneck race of time is going to land us all too soon over the border, because we've not learned how to live and are handicapped by the ills and indiscretions of our ancestors.

For my part, I'd like to slow up for a while. It used to be a good long time from New

Years to New Years, but now it is like the dip of a swallow's wing or the shadow of a cloud. The seasons are constant, but they are in a greater hurry. Spring used to take off her things and sit awhile; now she only stops to throw a bunch of lilacs in at the window and flits away. Summer and autumn used to make themselves at home and linger long and pleasantly, but of late years the former weaves a garland, which is hardly finished before the latter breathes upon it and it drops to pieces. As for winter, he barely takes time to show us his wares of diamonds and ermine and laces before he is summoned back to the land of nowhere.

God bless us, every one! Where shall we be this time next year? This moment the something called "I" sits here with me, but where will it be tomorrow, next year, or when eternity, never begun and forever unending, is a billion ages on its course? Before this present day's completed span is run, it may exist no longer in all the spaces of the sentient earth; within a week, it may be laid away under the frozen turf; as the years drift by, it shall be as completely forgotten as the petals of Sappho's rose.

Where will it be gone? They can never bury it, however deep they dig its grave. Will it slip away, like a ray of light, to mirror itself, perhaps, within the translucent tide of eternal life, or lose itself with other sun-sparkles in the fine radiance of illimitable ether? Who knows? I do not.

As the years go on, how full they grow to be of ghosts. Who of us, after first youth, have failed to find our holidays and our anniversaries haunted by restless memories and sad associations that stalk like sheeted specters from the tomb? And when once the ghosts get to coming into our lives, oh, how fast they throng. We cannot take a journey, but they go with us. We cannot lie down to rest or rise to take up life's multifarious duties, but they lie down and rise up with us. Only at the door of death shall we leave them and enter in, to find the better part of life in the shadowy land of dreams.

How needful, then, that our memories be pleasant ones. Let us resolve, then, with the new year, to do our best. Let us learn the extreme value of human life; let us strew it with flowers. Save every hour for the sunshine; let your labor be so ordered that in future times the loved ones may dwell longer with those who love them; open your minds;

exalt your souls; widen the sympathies of your hearts; face the things that are now as you will face the reality of death; make joy real now to those you love, and help forward the joy to those yet to be born. Remember that death is not of old age, which no one living in the world has ever seen; remember that old age is possible, and perhaps even more than old age; and beyond these earthly things—what? None knows. But let us look earnestly and constantly for something better, seek for something higher, and lift our souls to be with the more than immortal now.

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This may be the last year of our work. The good deed we do today may be our last. The last time! Did you ever stop to think of it? It is coming, perhaps it has already come, and you did not know it. You have read the last journal, and closed the covers of the last book you shall ever read on earth. You have eased the sufferings of your last patient. You have looked for the last time into eyes that never failed to answer love with love. You have looked your last at sunset sky and morning's roseate flush of dawn. You have taken your last journey, written your last letter, eaten your last meal, slept your last sleep. The story is told; the play is ended; the lights are burning low; the music is hushed.

Yes, all this is possible; so, do not let the chance go by to be gentle, to be kind, to be honest, to be strong. Do not let love's opportunity go by unchallenged, remembering always that it may be the last you will ever know.

Remember, it is not always youth time, any more than it is always May; and grafts and shoots that grow readily in spring will take no root in bleak mid-winter. Cultivate your smiles and your simple services of love now, and old age shall be but an afternoon trellis hung deep with perfumed roses, as beautiful in the sunset glow as in the dawn.

Like an unwritten page, the new year lies before you in untrodden fields of shining snow. God grant the footsteps of Death be not the first to track the unbroken path that lies before you. May joy and peace and love, like the roots of the violets under the snow, quicken and blossom for all of you as the year advances, and may your progress be, like January's, right steadily onward into June!

Among the Books

THE PRACTITIONER'S VISITING LIST

This visiting list, which is published by Lea & Febiger, of Philadelphia and New York, is now in its thirtieth year of issue and has so well established its right to exist that no extended description of it is necessary.

Aside from the account-book section, it contains, among other valuable information, tables of weights and measures, instructions for examining the urine, a diagnostic table of eruptive fevers, directions for effecting artificial respiration, tables of dosage, and an alphabetical list of diseases and their remedies. It is made in weekly and monthly, and 30-patient and 60-patient sizes. The price of any one is \$1.25, by mail, postpaid. Thumb-letter index, 25 cents extra.

MEDICAL RECORD VISITING LIST

This is another old standby among the visiting lists, published by William Wood & Co., of New York; but in this edition the amount of printed material useful in emergencies has been considerably increased. The most important change is in the list of remedies and their maximum dosage, now given in both apothecaries' and decimal systems, and the indications of such as are official in the United States. Of great value is the list of poisons and their antidotes. A novel feature is the short paper giving hints on the writing of wills.

This list is made in several styles; the one for 30 patients a week selling for \$1.25, for 60 patients, \$1.50, and 90 patients a week, \$2.00. The doctor's name is stamped in gold upon the cover for 25 cents extra.

THE PHYSICIANS' PROTECTIVE ACCOUNTANT

One of the most generally useful pocket accountants for the use of the physician is *The Physicians' Protective Accountant*, published by The Abbott Alkaloidal Company; this consisting of twelve separate visiting list sections, one for each month in the year and a separate ledger for the transferring of accounts and a record of monthly balances.

This accountant has the advantage of being exceedingly simple, and conveniently adapted to the physician's pocket or satchel, while meeting all the requirements of the laws of the various states regarding the keeping of accounts. It is provided with a convenient leather cover.

The monthly record is so arranged that every patient's account is kept separately in a form most convenient for transfer to the ledger, the latter being simplicity itself. There are separate pages for the record of cash receipts and for obstetrical cases. The price for the complete outfit (twelve monthly sections, and ledger), is \$2.50. We recommend this to the medical profession with confidence that physicians will find it most satisfactory in every way.

HUN: "ATLAS OF DIAGNOSIS OF NERVOUS DISEASES"

Atlas of the Differential Diagnosis of Diseases of the Nervous System. By Henry Hun, M. D., professor of neurology, Albany Medical College. Troy, N. Y.: The Southworth Company. 1913. Price \$5.00.

Doctor Hun may felicitate himself upon having done for neurology the one thing above all others that neurology needed to have done. It is not often that a reviewer finds himself called upon to discuss a book—especially in medical literature—to which no words of praise that he is able to command seem adequate to do simple justice; and when he does, he is not backward about acknowledging it. Such is the feeling of the present reviewer in contemplation of this work of Doctor Hun's. It is no hyperbole to say that it is the dream of the neurologist come true.

Neurology is preeminently a schematic subject, to be taught and grasped only by diagrammatic methods. Yet, no writer has hitherto had the perspicuity and the daring to present it in purely diagrammatic fashion. Doctor Hun not only has had the perception and the courage to do this, but he has had the skill and the patience to do it thoroughly and well.

We have no hesitation in saying that this book is a master-piece or in predicting that it

will take its place among the classics of medical literature. The grasp of the subject which it implies on the author's part is profound; the amount of labor it must have entailed, colossal. We are the fortunate ones who enter into the fruits of his labor. The entire profession is under an everlasting debt of gratitude to Doctor Hun, which, if we mistake not, it will evince by a prompt and widespread adoption of his excellent work.

"PROGRESSIVE MEDICINE"

Progressive Medicine. A quarterly digest of progress in the medical and Surgical sciences. Edited by Hobart Amory Hare, M. D., and Leighton F. Appleman, M. D. Volume XV, Nos. 2 and 3. Philadelphia: Lea & Febiger. 1913.

The second and third volumes of this year's series of "Progressive Medicine" are in keeping with all the previous issues of the work. The literature on the various subjects is carefully reviewed, and abstracts, with comments thereon, are presented of the more important articles that have appeared during the period involved. This series of books affords a résumé of the progress of medical science that can be obtained in no other way, and is made by men who thoroughly appreciate the needs of the busy practitioner who, nevertheless, desires to be a student of current advance. The two volumes here under review contain digests of the following subjects: Diseases of the thorax, dermatology and syphilis, obstetrics, diseases of the nervous system, hernia, abdominal surgery, gynecology, diseases of the blood, ophthalmology.

DERCUM: "MENTAL DISEASES"

A Clinical Manual of Mental Diseases. By Francis X. Dercum, M. D., Ph. D., professor of nervous and mental diseases, Jefferson Medical College, Philadelphia. Philadelphia and London: W. B. Saunders & Co. 1913. Price \$3.00.

The average medical man has no desire to become an expert in mental diseases. If he has, this book is not for him—he must consult a more exhaustive and monumental work. What the ordinary man wants is a simple, concise, practical exposition of the commoner phases of mental pathology and therapy, in terms of the rest of his knowledge and practice. The refinements of diagnosis and treatment are for the specialist. It is not necessary that the general physician be able to argue an elaborately detailed brief for the

numerous psychic phases of mental disease; but he ought to be able to differentiate, intelligently and fundamentally, between the grosser manifestations of disordered mentality.

Doctor Dercum, in the book under review, has set forth for the general practitioner these commoner clinical phases of psychiatry. Indeed, he is the only writer on this side of the Atlantic who has succeeded in producing the first book on mental diseases of which, in our humble judgment, deals with the vexed subject in anything like an illuminating fashion.

The literature of alienism in Germany and America has shown a pernicious tendency toward confusion and incoherence. The English alienist alone seems to have kept his head. Doctor Dercum evidently has taken a leaf out of the Englishman's book and has set out with the avowed purpose of simplifying and unifying the subject—a purpose which he has carried out with admirable consistency. We heartily commend his work to those who are concerned with the diagnosis and treatment of mental defects.

FRIEDENWALD AND RUHRAEH: "DIET IN HEALTH AND DISEASE"

Diet in Health and Disease. By Julius Friedenwald, M. D., professor of gastroenterology in the College of Physicians and Surgeons, Baltimore; and John Ruhraeh, M. D., professor of diseases of children, in the same college. Fourth edition, revised and enlarged. Philadelphia and London: W. B. Saunders & Co. 1913. Price \$5.50.

The influence of diet upon health and disease is receiving wider and wider recognition every year. There is, to be sure, plenty of room for expansion in our knowledge of this important subject; but, on the whole, it is growing about as fast as could be expected. The mere fact that we are recognizing the part played by diet in normal and abnormal physiology is a distinct advance over fifteen or twenty years ago, when physicians spoke and acted as if the food that one ate made no more difference to one's physical condition than did the way one did his hair.

Nowadays there is at least an attempt on the part of the conscientious doctor to make something like a scientific adjustment between diet and organism; and the attempt is becoming steadily more intelligent. That this is so, is due, for the most part, to the persistent and well-directed efforts of a few men, of whom the authors of this book are conspicuous examples, who not only have preached, in season and out of season, the

necessity of dietetic hygiene and treatment in health and disease, but have worked out a rational system of dietetics for practical use. The fourth edition of Friedenwald and Ruhraeh's book faithfully represents the present status of the subject, and its appearance sufficiently attests the popular appreciation of the authors' work.

ROEMER: "OPHTHALMOLOGY"

Textbook of Ophthalmology. By Dr. Paul Roemer, professor of ophthalmology at Greifswald (Germany). Translated by Dr. Matthias L. Foster. New York: The Rebman Company. 1913. Price \$2.50.

This is another of those valuable translations of European classics to which The Rebman Company is treating the profession of this country. The second volume is devoted, for the most part, to those aspects of ophthalmology which have to do with general diagnosis. These aspects of the eye and its disorders are not appreciated by the general practitioner to anything like the extent that they should be. Perhaps the oculist, himself, and the writers on ophthalmology are somewhat responsible for this failure on the part of the physician to utilize the diagnostic findings of the ophthalmoscope and retinoscope. At all events, it is unquestionably the business of these specialists to call attention to the value of the eye as a general diagnostic medium and to stimulate its utilization for this purpose; and we are glad to see that Doctor Roemer gives a full quota of space and time and effort to disorders of the eye in relation to general diseases.

To those who know anything about these monograph publications of The Rebman Company it is unnecessary to say that this volume is a paragon of physical excellence and elegance—paper, type, illustrations, plates are all of the highest quality.

DAVIS: "OBSTETRIC NURSING"

Obstetric and Gynecologic Nursing. By Edward P. Davis, A. M., M. D., professor of obstetrics in Jefferson Medical College, Philadelphia. Fourth edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Co. 1913. Price \$1.75.

There is, perhaps, no department of medicine or surgery in which it is so desirable that the nurse be thoroughly trained and independently capable as Obstetrics; for there is no other branch in which the physician relies so implicitly upon the nurse's intelligence and

professional tact. Hence, it not only is desirable that she be thoroughly instructed in her duties, but that her instruction extend somewhat beyond the ordinary limits observed in the ethics of nursing. If there be any place where the knowledge and work of the physician and the nurse overlap each other, it is in the lying-in room.

Doctor Davis' manual recognizes and fully measures up to this necessity. It covers the ground with praiseworthy adequacy. Indeed, while it is written as a book for nurses, it should be almost as valuable to physicians, since it deals largely with the details of obstetrical technic. It expounds the practical, clinical aspects of childbirth, from the beginning of pregnancy until the dismissal of the case, including much of the physiology and anatomy of the subject.

Apparently, however, all that we might say in commendation of the book would be gratuitous and superfluous, for the fact that it has passed so rapidly into so many editions is evidence of its merit and popularity. Suffice to say that it furnishes just the quality of instruction that one would expect from a man of Doctor Davis' long experience and ripe judgment in the practice of obstetrics. What more could we say?

"REFERENCE HANDBOOK OF THE MEDICAL SCIENCES"

Reference Handbook of the Medical Sciences. Edited by Thomas Lathrop Stedman, A. M., M. D. Third edition, completely rewritten and revised. Vols. 1 and 2. New York: William Wood & Co. 1913. Price for complete 8 volumes, cloth, \$56.00; leather, \$64.00; half morocco, \$72.00.

Naturally, every successive edition of this colossal work represents a larger amount of burdensome labor and the exercise of a nicer degree of editorial discrimination than the one which went before; for every year the mass of material to be handled grows bigger and the choice between transient and permanent values becomes harder. No doubt that is the reason why we have been kept waiting a little longer for the volumes of this third edition than we were in the case of the first and second.

So far as the volumes now at hand are concerned, the performance of the gigantic task leaves nothing to be desired. An enormous amount of altogether new information is incorporated into the revision, and, so far as we are able to judge, the selective faculty of the editor and compilers has been soundly

exercised. The only feature we should feel at all disposed to criticize is the title of the series, which is altogether inadequate to express its scope. It is, in fact, a veritable encyclopedia of medical sciences, and fulfils all that is customarily expected of a cyclo-pedia.

Possibly another tentative criticism might be made of the rather cumbersome physical proportions of the volumes. We offer the suggestion that some arrangement might be made whereby a supply of India paper could be obtained on which to print these books. Such a departure would greatly enhance their convenience and make them in every respect a triumph of modernity.

HONAN: "HEART-PATIENTS"

What Heart-Patients Should Know and Do. By James Henry Honan, M. D., of Rush Medical College. New York: Dodd Mead & Co. 1913. Price \$1.20.

Every physician is agreed that the management of patients having a diseased heart resolves itself into a proper supervision and regulation of their hygienic regimen and their habits of living, and that the role of the medical man in such cases is that of an adviser and counselor in respect of this mode of life. But when he comes to put this principle into practice every physician does not, by any means, find himself possessed of the necessary data or experience for formulating rules of conduct for his patient. Such matters, indeed, can hardly be the fruit of any man's individual experience, since no one man, at least no one man in general practice, acquires sufficient experience to furnish him trustworthy guidance on the subject. These things must of necessity represent the net sum of the experience and observation of many men in many places at many times.

Here, in this little book, the author has gathered together and assembled in orderly, intelligent, usable fashion the conclusions of these various men and places and times, for the guidance of those who are confronted with the task of safely steering the feeble bark of the "heart-patient" through the precarious vicissitudes of daily living. The book is well and simply written. The physician, if he so desired, even could copy the author's preachment on the particular form of heart disease with which his patient is afflicted, just as it stands, and hand it to the patient as his living manual. At all events, it sets before the doctor, in clean-cut shape, just

what he needs to tell his heart-patient, in just the way he needs to tell it.

MANQUAT: "PRINCIPLES OF THERAPEUTICS"

Principles of Therapeutics. By A. Manquat. Translated by M. Simbad-Gabriel, M. D., New York: D. Appleton & Co. 1910. Price \$3.00.

In this work Dr. Manquat shows a beautiful appreciation of the importance and necessity of therapeutics, properly understood. Our readers will be able to form some idea of the author's conception by the perusal of the excerpt from his introductory remarks which we shall print in an early number of CLINICAL MEDICINE. The book is well worth buying and studying.

VON NOORDEN: "NEW ASPECTS OF DIABETES"

New Aspects of Diabetes: Pathology and Treatment. By Prof. Dr. Carl von Noorden, Professor of the First Medical Clinic, Vienna. Lectures delivered at the New York Post-Graduate Medical School, New York. New York: E. B. Treat & Co. 1912. Price \$1.50.

Those of our readers who have carefully perused the articles by Dr. Wolverton upon diabetes which appeared in recent numbers of CLINICAL MEDICINE, are already pretty well familiar with the theories of Professor von Noorden relative to the pathogenesis and treatment of diabetes. It seems hardly necessary to say that in the working out of the problems connected with this disease, von Noorden probably stands at the head of the long list of earnest investigators. From the American point of view, the feature of his work which has peculiar interest is that it is distinctly practical. He has the rare faculty of connecting pathology with therapy, and this is a characteristic which we in America value most highly.

Should we attempt to give the central idea in von Noorden's work upon diabetes, it would be the emphasis which he places upon the importance of the liver as a factor in sugar formation and control, but the space is too short to give in detail the fascinating outline of treatment of the subject in this interesting book. We urge every reader of CLINICAL MEDICINE to purchase a copy and read it carefully. Not only will he understand diabetes better, but he will treat it more successfully.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERY 5963.—“Diabetes Insipidus.” E. W. D., Arkansas, asks us to name the “best remedy” for diabetes insipidus.

Diabetes may be caused by severe nervous or physical shock or by injury; by lesions of the fourth ventricle; paralysis of the sixth nerve; following acute infectious disease or the prolonged use of alcoholic beverages. Sometimes it seems to be owing to hereditary influence.

Modern clinicians are inclined to regard the disease as a vasomotor neurosis, and unless it follows shock or alcoholism the onset is gradual. Neurasthenia, insomnia, and chorea are frequent complications and have even been regarded as causative. Frequent and thorough examinations of the urine should be made.

On general principles, it is well to restrict the amount of fluid consumed. A rigid personal hygiene should be instituted. Coniine, hyoscyamine, and monobromated camphor, in moderate doses four times a day, may prove beneficial; or zinc valerate may be pushed to effect. Arbutin nearly always is of service, this drug exerting a continuous action upon the urinary tract, 1-3 to 1 grain, or even larger quantities, given three times daily, being the average dosage; strychnine, 1-64 grain, may be added.

Should this treatment prove ineffective, alternate arsenic iodide and arsenic bromide (gr. 1-64) after each meal, week and week about. With the arbutin, give hydrastoid and juglandoid, of each 1-6 grain. After using arsenic for two or three weeks, substitute ergotoid, 1-3 grain, for an equal period; then return to the arsenic. In extremely rebellious cases, pilocarpine may be given in sufficient dose to cause diaphoresis.

If you will give us a clear idea of the conditions present in any particular case under observation, we shall be pleased to try to prescribe more intelligently.

QUERY 5964.—“Vomiting of ‘Black Fluid’ by Newborn Infant.” E. C. J., Iowa, had a very peculiar case a few days ago and asks

whether we or any brother practitioner can enlighten him on the subject.

Woman, age 32 years, mother of one child born three years ago. That delivery was difficult, but health has since been good.

This woman was delivered again recently of a 10-pound boy. When the membranes ruptured a black, flaky fluid flowed out, and it was regarded as meconium mixed in the amniotic liquor. The position of the head was L. O. A.; delivery slow but natural.

When the head was born about an ounce of black fluid issued from the child's mouth and nose. “Was that,” the doctor wonders, “liquor amnii or was it a case of reversed peristalsis? I never saw anything like it before and do not find such an occurrence mentioned in any of my textbooks. Mother and baby are all right now.”

We must confess that the problem you present is not easily solved. It is unfortunate that you did not have a specimen of the “black fluid” examined microscopically. We can only assume that meconium in the amniotic liquor entered the child's stomach or buccal cavity and was regurgitated as the head was delivered. As you know, analysis has shown that the stomach and intestines of the fetus contain, in addition to bile-pigments and salts, a considerable amount of mucin, vernix caseosa, and epidermal cells, thus confirming the opinion held by so many physicians that the amniotic liquor is swallowed at intervals by the fetus.

It is just possible, of course, that hemorrhage may have occurred in some part of the digestive tract of the fetus. Naturally, the blood would be considerably changed in the fetal stomach, and pressure may have caused the expulsion of the substance; but it is rather probable, as the child represented no abnormalities, that you had to deal with a heavy deposit of meconium in the liquor amnii, a portion of which, in some manner not quite explainable, found its way into the stomach or mouth and nares of the child.

It must be remembered that the amniotic liquor may become very black in color and

more or less turbid. While its exact origin is still a matter of doubt, it is probable, however, that it is really derived from maternal and fetal sources. It frequently contains the secretion of the fetal kidneys.

Despite the fact that it would seem to be physically impossible for the fetus to swallow before it breathes, it now is generally believed that considerable quantities of the liquor amnii enter the stomach during the later months of pregnancy.

From your description, we can hardly believe that the child suffered from melena. Ordinarily, in such cases, the vomiting of black matter (altered blood) is succeeded by the evacuation of feces of the same character.

You state that the labor was difficult, and one of the main evidences that the fetus is in distress is the coming away of meconium. Should this come away mixed with the liquor amnii, it shows that the fetus was in distress during the early stages of delivery. When meconium comes away unmixed with the liquor amnii, during the second stage—obviously freshly voided—distress is recent.

Under the circumstances, doctor, we believe that, owing to some abnormality—faulty position, unequal uterine pressure, etc.—the meconium was voided before dilatation had advanced to any extent and later, mixed with liquor amnii, found its way into the mouth or even the stomach of the child. As soon as pressure was removed and with the first attempt at respiration, the fluid was ejected—some of it by way of the nose.

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 QUERY 5965.—“Gastric Ulcer or Carcinoma?” F. B. S., Illinois, forwards gastric contents and somewhat limited clinical data, and requests diagnostic and therapeutic suggestions.

Examination of the specimen revealed the presence of free and combined hydrochloric acid, a moderate quantity of lactic acid, traces of peptone and pepsin, with a very few streptococci and a few saprophytes. Pus and blood were absent.

The patient gives a history of continuous pain in the epigastric region since June—which at first was more general, especially in the region of the descending colon. He first came under the correspondent's observation about four weeks ago. There was tenderness in the epigastric region, very pronounced in a small localized area just below the sternum in the median line; and marked pulsation of the abdominal aorta; while auscultation revealed blowing sound in this

region. No vomiting, no palpable tumor; pain after eating; good appetite; loss of weight (about 25 pounds); has gained 5 pounds under treatment. Malignancy suspected.

We regret that you did not give us some idea of the patient's age, and clearer clinical data generally. You say that there is a history of continuous pain in the epigastric region since June; “pain at the beginning in the region of the ascending colon.” Further on you say, “Pain after eating; no palpable tumor; physical examination reveals only tenderness in the epigastric region.” Do you mean tender feeling on deep pressure?

In gastric ulcer, as of course you are aware, epigastric pain is increased by pressure; the sensitive point usually is circumscribed; pain occurs generally a few minutes after eating, though sometimes one-half to one hour later, and persists during digestion. After a few weeks, in the majority of cases, dorsal pain begins, which is of a gnawing character, and is felt to the left of the spine, between the eighth and tenth vertebræ. Sometimes dorsal and epigastric pain alternate. At the first there is but a feeling of fulness and of pressure after eating, this gradually increasing to pain immediately below the sternum. Sometimes this pain is so severe, the patient is afraid to eat, though the appetite is good. Nausea, regurgitation or vomiting may occur early, or perhaps not until later. If there is no hematemesis, occult blood frequently will be found in the stools, and the latter should always be examined.

Do not forget that, while hyperchlorhydria exists in a great majority of cases, there also may be subacidity.

Ulcer of the stomach usually occurs in patients between the ages of twenty and fifty, being more often observed in women. Cancer makes its appearance in middle age and advanced life, and is met with more often in men.

In ulcer of the stomach, epigastric pain is intense, appears shortly after meals, is increased by pressure. There may be free periods during the day; dorsal pain is present; sooner or later the tongue is dry, red, and clean, or moist and smooth, with a light fur; there is no abnormality of taste; belching is absent, as a rule, but if present no odor is observed.

In cancer, pain is decidedly less intense, but continuous, and there is marked local tenderness; dorsal pain is absent; the appetite is poor; the tongue is thickly coated; there is a bitter or sour taste in the mouth;

belching is frequent, the regurgitated gas possessing a disagreeable or fetid odor.

It may be necessary to make several examinations of the stomach contents in order to arrive at a definite diagnosis in this case.

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QUERY 5966.—“Peculiar and Fatal Abnormality of the Cord.” W. V. T., Kansas, in April, 1911, attended a primipara aged twenty-seven years, of average stature and in excellent health. (The husband, also twenty-seven years of age, was in good health and of excellent habits.) No venereal taint in either. Fetal movements had been absent for four or five days. The labor was rather protracted, although not complicated, and terminated naturally. The infant, which weighed eight or nine pounds, was dead. There was no pulsation in the cord, which was dark and almost gangrenous. The mother's recovery was uneventful.

The Doctor attended the same lady September 16, 1913. He arrived at about 10 p. m. on the 15th. Found the os dilated to the size of a silver half-dollar, pains rather spasmodic, otherwise normal. At midnight he gave a hypodermic of hyoscine-morphine. Pains continued at normal intervals and were vigorous, the mother sometimes dozing between pains. The presentation was normal, being left occipito-anterior. The child was born at about 4 a. m. on the 16th. Following vigorous spans upon the buttocks, the child would take an inspiration, but no further efforts at respiration would be made for several seconds. At one time it made a slight effort to cry. Hot and cold water (plunging alternately), artificial respiration and mouth to mouth insufflation failed to resuscitate the child, which was a girl, well matured and seemed normally developed, weighing eight pounds. It showed only slight lividity. After working with the child some time, the cord was hurriedly ligated in one place and severed. After all was over, the Doctor noticed that the umbilical end of the cord was black, but could not see that the placental end deviated any from normal.

We must confess that it is impossible for us to venture a definite opinion as to the cause of the suspended—or the lack of—animation in the child born September 16. As, however, an abnormal (possibly gangrenous) condition of the cord obtained in the first instance, while you observed “a darkened area about the umbilical end of the funis” of the child born subsequently, it is probable that death in each case was due to some circulatory abnormality. In certain

cases, it would seem, the mother may be able to furnish the fetus with the necessary amount of oxygen and nutriment until almost the termination of pregnancy, then suddenly becomes unable to do so.

Had death in each case occurred a few days prior to delivery, we should have to consider the possibility of maternal or paternal syphilis, maternal anemia or tuberculosis, or some inflammatory condition of the uterus. As, however, intrauterine death occurred in the first instance, and the second child, when born, showed some signs of life, we are confronted with a somewhat more difficult problem. It is true that the death of the first child occurred only three or four days prior to term. Precisely the same conditions may, therefore, have existed in each instance. Had the delivery of the second child been delayed even a few days, its death in the womb also probably would have occurred.

As each child was fully developed and the mother shows no sign of nephritis, diabetes or any serious systemic disease, we cannot reasonably suppose that the death was due to the prolonged absorption of maternal poison; neither can we reasonably assume any gross pathological condition of the ovum or placenta. It is true, that in the first case labor was somewhat prolonged, but, as fetal movements had ceased for four or five days, it is reasonable to assume that the child had been dead for that length of time. We must, therefore, exclude pressure (upon the cord) during labor.

In the second case, labor was neither prolonged nor difficult, and we must assume, of course, that there was no pressure upon the cord here either. The discolored area about the umbilical end of the funis of the child born alive and the extensive discoloration of the cord of the child born dead points directly towards *late* changes in the umbilical vessels, with obstruction of the fetal circulation.

It is to be regretted that the placenta and cord were not thoroughly examined; also, a postmortem might have revealed abnormality of the fetal heart. We need not tell you that as the fetus approaches term slight narrowing of the foramen ovale and ductus arteriosus takes place, preparatory to the establishment of pulmonary and systemic circuits; while immediately after delivery still more important changes occur. The possibility of placental infarction must not be lost sight of.

Everything considered, we must assume that death in each instance was due to direct obstruction of the circulation (premature

closure of the funic vessels) or to imperfect oxygenation of the blood, the fundamental cause in either case being, perhaps, some peculiar toxin in the maternal blood.

As to any effect the one tablet of hyoscine-morphine administered may have had, this may entirely be disregarded, we think.

We have submitted this query and our reply to Dr. William Rittenhouse, and he comments as follows:

"I have carefully read Doctor Tucker's description of his case and your reply to his letter, and on due reflection I do not see that I can add anything to what you have so well said. In the absence of an autopsy in both cases, it is impossible to do more than speculate on the true nature of the conditions. I do not think that the sedative had anything to do with the result in the latter case."

—
 QUERY 5967.—"Angioma." J. M. I., Indiana, has a patient eleven months old who presents what appears to be a small angioma on the upper lip. It is raised, dusky-red and compressible. The parents have taken the child to several doctors and "the blood has been drawn" from the tumor by one of them; however, it returned in a few minutes. Our correspondent wishes to know whether cutting the capsule and tying off any bleeding points (enucleation) would prove curative; or whether carbon-dioxide snow would be of any value? If thiosinamine would aid, should it be injected at the site of the tumor? He has thought of using pure phenol, followed by alcohol, but is not sure of its effects on one so young.

A small angiomatous growth may be destroyed by the electrocautery or by carbon-dioxide snow, but probably the best procedure would be enucleation. The operation is comparatively easy, and healing can be secured without an objectionable scar. It must be borne in mind, though, that frequently there is a comparatively large vessel at the extreme base of the tumor, whence it is desirable to dissect out the angioma and place a ligature around the base before finally separating the mass.

Angioma cavernosum rarely is congenital and it arises mostly in the first year of life from some insignificant trauma. It is soft, protruding or hemispheric, and turgescient; sometimes distinctly encapsulated.

A vascular nevus, angioma simplex, consists of a red, bluish or purplish-red, slightly elevated area. It is readily compressible; the surface is either smooth or irregular and lumpy. The lesions vary in size from that of

a bean to an area as large as the palm of the hand. Anything which disturbs or impedes the circulation of the part leads to temporary increased prominence.

A small superficial angioma may be destroyed by means of electrolysis, pressure or puncturing with a needle or sharp stick dipped in nitric acid. Puncture and pressure combined works satisfactorily in many instances. A triangular needle is introduced in several places over the growth and the tissues are then broken up; immediately thereafter several coatings of collodion are applied. Thiosinamine could not be used and phenol should not be.

As a rule, after a child is three or four months old, angioma has become permanently established and energetic measures are necessary. In this particular case, excision undoubtedly will prove most satisfactory.

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 QUERY 5968.—C. M. D., Ohio, describes two cases that have been bothering him for a long time and asks for help.

Case 1.—A man thirty-five years old leads an active life, is well developed and healthy; his past history is absolutely negative; never had any venereal disease of any kind, and nothing except the ordinary diseases of childhood. He complains of the necessity of frequent urination—about every three hours during the day, and has to get up on an average twice each night. The urine is normal in every respect. Physical examination is absolutely negative. He otherwise seems in perfect health. This condition has obtained a number of years, but he has been getting a little worse the past year or two. Feels no pains on urination. He says that when he gets up at night he voids sometimes a fairly large amount, at other times very little. The amount passed during twenty-four hours is about normal.

Many different drugs have been administered, but none of them seem to alter the condition in the slightest. Diuretics, of course, increase the amount of the urine and make him urinate more frequently.

We are inclined to think that you have to do here with some prostatic hypertrophy. Examine the man's gland and at the same time ascertain whether there is any tenderness in the deep urethra. The passage of cold (iced) steel sounds often proves beneficial in such cases (provided there is no prostatic infection) while a few doses of arbutin, hydrastis, and hyoscyamine may be administered, in the expectation of prompt disap-

pearance of all symptoms. Suppositories may be used with advantage.

Case 2.—Young man of about twenty. Complaints of very frequent urination—about every hour during the day, and gets up from one to five times during the night. The 24-hour amount is somewhat in excess of normal. The urine is alkaline in reaction, but otherwise normal. The correction of alkalinity seemed to cause no improvement. Various cystitis remedies, diuretics, hyoscyamine, atropine, strychnine, and several other drugs have been given without any effect. He seems to improve for a day or so and then the same old condition returns. The patient has had more or less trouble in this respect ever since he was a child, being troubled with enuresis at that time. Otherwise his history is negative and he is, apparently, in good health.

If a file of CLINICAL MEDICINE is available, read our answer to Query 5538 on enuresis diurna et nocturna. However, as you are aware, an essential polyuria sometimes seems to exist; this condition having also been described as "polyuric diabetes." It is necessary to distinguish carefully polyuria (in which the amount of urine exceeds 2 liters in twenty-four hours) from undue frequency of urination, the latter frequently existing with a normal output of urine.

Some individuals of the neurotic type, or rather suffering from nerve-instability, present a so-called "nervous polyuria."

It has been claimed that the moderate type indicates disorder of the renal organs; the more marked polyuria evidences systemic disorder, that is, either diabetes mellitus or insipidus.

The more moderate forms may be observed in: (1) hysteria, epilepsy, exophthalmos or as a reflex from mental strain, sciatica, sclerosis of the cord, etc.; (2) cirrhosis of the liver; (3) various cardiac disorders, especially cardiosclerosis; (4) renal diseases—a simple congestion of the kidney; (5) uricacidemia—nitrogenous diabetes; (6) phosphaturia—phosphatic diabetes. The more marked forms may be observed in glycosuria and diabetes insipidus.

In every case, even if interstitial nephritis and amyloid kidney have been excluded, there may be trouble further down; therefore, urethra, bladder, and prostate gland should be examined. It may be necessary to use the cystoscope to ascertain the integrity of the ureters.

We are inclined to think that this patient (No. 2) has a marked chronic cystitis. In

such cases, the possibility of ascending infection must not be lost sight of.

We should like to examine the urine of both patients.

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QUERY 5969.—"Polyneuritis." R. M. J., Tennessee, requests advice relative to a case now under his care. The patient is a married woman, about thirty years of age, having one child, age ten. Family history not good, several uncles and aunts having died of consumption. Her health up to twelve months ago was reasonably fair. Menstrual function always was normal, and now is so. According to her statements, her trouble began with something like a mild attack of rheumatism, affecting both the upper and the lower extremities, especially the hands and forearms; this being accompanied with a pronounced general weakness and a moderate smothering sensation.

In June last she had some swelling and soreness of both upper and lower extremities, reaching to knees and elbows; not confined to the joints, which were a little stiffened, but not enlarged. Her hands when cool or dropped by her side would soon assume a deep reddish-purple color, especially the palmar surfaces, but the color would disappear when her hands were elevated. There were no skin lesions; she had no temperature. However, she had a constant slight headache; the tongue was coated; digestion was bad; she was constipated; had no appetite; her heart action was irregular, with shortness of breath at times.

Under treatment she gradually improved, and for the two last months her tongue has been clean, appetite and digestion good, bowels regular, no headache, heart action regular, the "lub-tub" distinct although slightly masked by a peculiar rushing sound, no swelling of the extremities. She sleeps well on either side.

She has gained but little or none in strength or flesh. The muscular and joint soreness has extended to shoulders and hips, with a peculiar tension of the skin, which, she says, feels as if it would split when she moves. The purple discoloration has extended, deepened and become permanent. Her face has a curious drawn but not pinched expression, and white marks follow finger pressure, showing capillary stasis. Instead of swelling, she now has marked atrophy of the extremities and very pronounced muscular soreness and loss of joint action. Her fingers feel like sticks of wood. She is a woman of more than ordinary sense and has at no time been

affected by menta aberration; is bright and cheerful.

"My diagnosis," the Doctor writes, "was, structural disease of the right heart, of rheumatic origin; that the shortness of breath and swollen extremities were caused by disturbed compensation; that the compensation was restored by hypertrophy (heart now enlarged), with consequent disappearance of swelling and dyspnea. My prognosis is, dilatation of heart, and death. I cannot understand, though, the muscular atrophy and the profound capillary stasis. There are not sufficient cardiac symptoms to explain the pronounced capillary sluggishness. Taken as a whole, I have never seen anything similar to this case during an active practice of thirty-seven years."

While undoubtedly there is some cardiac involvement, you also are dealing with a distinct multiple, or poly-, neuritis. In this condition, as you are aware, the disseminated inflammation or degeneration of the nerves is symmetrical in its distribution on both sides of the body, generally affecting all the nerves of the limbs, particularly their terminal branches. The affection rarely, if ever, extends as high as the nerve centers; hence, affections of the functions of micturition and defecation do not occur; girdle sensation rarely is mentioned; also bed-sores and cystitis do not occur.

In neuritis, the advance is not like that in myelitis; namely, from legs to thighs, and from thighs to trunk; but, as already stated, the disorder remains in the legs and forearms simultaneously or nearly so, and does not invade the trunk.

In myelitis, we have marked sensory disturbance and anesthesia; and the areas are not glove-shaped or stocking-shaped as in this case with gradual ascension on the outer side of the limbs.

A "stick-like" condition of the fingers almost invariably develops sooner or later; such anesthesia being first observed in the hands and feet, then in the forearms and legs, but rarely reaching as high as the shoulders or thighs. The wasting of the muscles is readily accounted for under the circumstances; and, in contradistinction to the condition that would obtain in a marked cardiac lesion, you had a primary edema, which disappeared, to be succeeded by the wasting

of the muscles. Were you dealing with a heart lesion *only*, edema of the extremities would be progressive and a terminal symptom.

The real cause in this case may never be definitely discovered. Rheumatism, so-called, gout (acidemia), diabetes, anemia (general malnutrition) or local malnutrition, produced by arteriosclerosis, must be considered.

Is it possible that the patient has received arsenic for a prolonged period or has she been addicted to the use of mercurials or coal-tar products, headache powders and the like?

The deep and superficial reflexes should be tested, and the urine examined carefully. It might be well also to send a blood smear to a competent pathologist for examination. Is there any enlargement of the spleen?

If a modern work on organic and functional nervous diseases or even a good work on practice is available, read the chapter on multiple neuritis. With the light so given, make another minute examination of your patient, and you will, we think, coincide with our diagnosis.

Naturally, medication, to be effective, will have to be based upon a clearer conception of the underlying pathology. Elimination must be maintained and the patient placed upon a milk or peptonized-milk diet, or, better still, properly prepared buttermilk.

If there is any malarial infection, quinine must be given. This is useless, of course, in nonmalarial cases. We have had excellent results from the phosphates of calcium, iron, potassium, and magnesium, with strychnine and arsenic. Massage of the affected extremities, warm epsom-salt sponge-baths, and the correct use of electrical currents will, naturally, prove beneficial. Proper manipulation of the limbs will increase the circulation, such increase of circulation bringing a fresh supply of reparative material to the nerve and aiding in nutrition of the muscles, which otherwise are decidedly affected by the sluggish flow of venous blood and generally reduced functional activity.

As soon, therefore, as muscular tenderness has sufficiently subsided, active massage should be employed. Do not forget that warm baths, packs, and hot douches stimulate the circulation materially and should be used daily; or, if the pack be given at night, will exert, not only a local action, but help to secure a quiet night's sleep.



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Old Books That Carry Inspiration

THE president of a certain college once said to me that he would choose textbooks emanating from a man of genius or of commanding intellect rather than from one who was more orthodox in his view. His reason was his belief that in the work of a great man there was something inspiring, something calculated to arouse and develop the mentality of the student. That was forty-five years ago, and at that time and place the suggestion was rather startling, as that college was the focus of an orthodoxy of the most unyielding form. The impression which that remark made may be judged by my recollection of it after nearly half a century.

Many times since then I have had reason to recall this statement. Occasionally the medical profession develops a thinker, a man who dares to leave the ruts and to plume his pinions for a flight over the mountain peaks and up where the broad world and the broader universe are unrolled to his view. He throws off the trammels of professional orthodoxy, opens his eyes to see, his ears to hear, and his mouth to utter truths never before so much as whispered. Such a man does not wait until his views are fortified by authority. He shocks little people. He raises storms about his own head, but to which he pays but scant attention. He is talked about

and in time takes his place as one of the landmarks, the "authorities."

Many a medical work I have perused. Here and there one stands out as the work of a man of this sort—one who thought for himself and did things. Among the productions of the innumerable horde of compilers, these works show marked peculiarities. They are interesting—absorbingly so. They are denounced; but in time the ideas they present as innovations are blended with the mass of medical belief and impart to it a tinge of their own color.

Among such writers there were such men as Headland, whose "Action of Medicines" long stood as a huge rock in the bed of a river, breasting the current and turning it to either side; and Austie, whose "Stimulants and Narcotics" was like breaking a bone again to set it better; and Fothergill, Richardson, Hilton, Frousseau, Bouchard, Lauder Brunton; yes, and I'll even include Haig! Even today, while some of the works of these great writers have become obsolete, you can not sit down and glance into them without growing interested and very soon finding some valuable food for thought.

The only modern writer I care to cite now is Metchnikoff. Frankly, I scarcely can read two chapters of his books in succession;

for, before the one chapter is finished some idea suggests itself to me and I have to stop reading and write it out.

Despite its age, I should start my student today on Niemeyer's "Practice" and keep him at it until he had mastered the clear, logical reasoning of this great German clinician. I should let him feed on Trousseau until he had learned to study patients; and not till then should he turn to the modern texts to get the advances in modern pathology and the helplessness of modern therapeutics.

Who knows when a modern master may appear? The possibilities may slumber under the hat of any one of the thousands of young men who have been impelled by some influence to enter the ranks of medicine. Give them the works of genius; they may, some of them, find in their own spirits something congenial.

Not the least attraction about such works is the opposition they encounter. Antagonism is the steel that strikes fire from the flint. It is the lure that attracts Youth, the "dare" that young manhood can never resist.

I will not be swayed by envy when my rival's strength is shown;
 I will not deny his merit, but I'll strive to prove my own;
 I will strive to see the beauty spread before me, rain or shine—
 I will cease to preach your duty and be more concerned with mine.

—S. E. Kiser.

EMMENAGOGS: WHICH TO USE AND WHEN TO USE THEM

Several years ago a Wisconsin friend sent us a communication telling of the value of *satureia hortensis*, the summer-savory of our herb gardens, as an emmenagog. Of the thousands of articles published in our pages, few attracted such general notice as did this. The author was overwhelmed with letters begging for further particulars. Since *satureia* is but one of a well-known class of remedies, and one not particularly better than the others, we were impelled to the belief that to many of the profession the resources of the Pharmacopeia in the way of emmenagogs are not well known.

To begin with, why should we employ emmenagogs at all? Are there conditions wherein these uterine stimulants are legitimately indicated? Or is the urgent demand for these agents confined to women who have loved not wisely but too well, or, as a philo-

sophic friend puts it, more wisely than they realize?

Girls finding themselves pregnant though unmarried become temporarily insane in their terror and are ready to take any risk rather than face the world. We who have grown gray in the service know that nature will assert its rights and that she who does face the world eventually finds that the babe in her arms more than compensates for the shame. But she does not know this when she realizes her condition and in imagination sees the fingers of scorn leveled at her by every sister woman.

Anything, is her cry, to escape this. Tell her the truth, that there is no known drug that does not threaten the life of the mother before it reaches the child, and she instantly responds that she takes the chance, death being better than disgrace. Tell her of the sleepless nights she would spend if successful, bedewing her pillow with tears of regret and longing for the child she has destroyed—you are talking to her in a strange language, she does not comprehend its meaning.

Be careful! Two lives depend upon your tact. Send the woman away despairing, and you are likely to have her suicide to excuse yourself for. Lie to her, if you must, but keep her under your influence; hold her by any merciful expedient until the time comes when mother-love arouses to aid you and save the twain.

Recently I held in my arms the product of such a debased course of falsehood and dissimulation, deception, treachery, and, looking in the mother's eyes, I asked, "Is he worth a lie?"

"Millions of them," she exclaimed, clutching her babe to her breast with a mother-love expression on her face before which the angels in heaven would uncover their heads in reverence.

I repeat, there is no known emmenagog that can be given to a pregnant woman without imperiling her life far more than that of her unborn child.

Where, then, is the field for emmenagogs?

We take first the anemic types. Many women are amenorrheic simply because they have no blood to spare. They cannot afford to lose the red corpuscles, and nature protects them by preventing the flow. Yet, this is abnormal, and there may be a menstrual week of nerves, fidgets, shrewishness taking the place of the hemorrhage. Force the flow, and the patient is weaker, but more comfortable. The indication here is, to restore the blood crisis by chalybeates, nuclein, purga-

tives—and very often by vascular relaxants. For, in these cases quite often the blood itself is normally rich but not enough of it—the blood-vessels are contracted and do not hold enough. Give your iron and nuclein, but add a little veratrine.

"Veratrine! To an anemic?"

"Precisely." Please turn to your books and observe that veratrine relaxes vascular tension. That makes room for more blood, and that means better nutrition from more pabulum. Then veratrine enhances elimination and carries out of the blood the toxins that induce vasomotor contraction. Finally, veratrine energizes muscular contractions of the heart as well as of the voluntary muscle-fiber, and also allays the sensation of fatigue—probably by eliminating fatigue-toxins. I am speaking here of veratrine in proper doses, about 1-2 milligrams in a day.

During the menstrual week administer the direct stimulants—savin, rue, tansy, apiol or satureia—whichever you can obtain in the most reliable form. The volatile oils are best; but do not give too much of them. Small and oft-repeated doses do best. Look out for the kidneys. I am always uneasy when giving any volatile oil. I once gave a little juniper, and the urine increased; gave more, and it stopped entirely—and for two days I wore my hat on top of my hair, rather than on my head.

Or, you may safely give potassium permanganate, a centigram seven times a day—provided your patient is not tuberculous. Suppose she is. If you give permanganate, you may have bronchial hemorrhages, possibly fatal. But nothing you or I or anybody else may say will convince the patient that her amenorrhea is not the cause of the lung disease. Give her apiol then, with aloin, and cut out the iron. The encouragement afforded by a menstrual return is worth more than the loss of blood injures her.

Then we have the frigid type of anemic, the sexless worker-bee, shrewish, energetic, keen, intense. Why bother with her? Let her alone, unless she is married, in which case we should try to make a real woman out of her, for her husband's sake. To the chalybeates, and so on, add sanguinarine, a centigram at bedtime throughout the month. Sometimes we find undeveloped organs and she may need circumcision, or the development of some parts by rubber suction apparatus, or the application of echinacea.

The fat, flabby anemic needs iron, aloes, and senecio. In this class alone have I found Murrell's recommendation of the last-

named drug justified, and I surmise that this class is more common in England than here. But they must quit drinking beer. No uterine stimulants will have much effect if the vascular system is paralyzed by malt liquors. These women should be thoroughly scared into submission—and stoppage of the menses surely offers the tactful physician a sufficient opportunity.

The rarest form of amenorrhea coming to me is that in the plethoric. These patients usually respond to very small doses of apiol with aloin, although occasionally we do better with bromides. Restricted diet and graduated exercise help; in fact, the treatment of plethora is to be applied in full.

A knowledge of the part played by disease in the doings of the men who make history would reveal the secret springs of many actions which are not understood by the ordinary historian.—British Medical Journal.

THE GENERAL PRACTITIONER AS A REFRACTIONIST

We wish to call attention to the large field of usefulness and profit open to the general practitioner who will fit himself for eye refraction and undertake to do this kind of work, for, there is no class of medical work which for so moderate an amount of intelligence and care yields such uniformly satisfactory results both to physician and patient.

Unlike every other branch of medical practice, refraction is an exact science, and the precision of its results serves to establish in the patient's mind a feeling of confidence in the physician such as none of the less certain branches of practice can create. Nor is there any class of cases occurring in the ordinary routine of practice for which the same outlay of time and skill as large a fee can be charged and will be as cheerfully paid.

It is a thousand pities that the everyday practitioner has neglected and ignored this work. Unfortunately, the specialty of diseases of the eye has drawn away with it the simpler practice of refraction; still, there really is no good reason for the general practitioner surrendering this profitable class of patients to the specialists.

On the contrary, it is utterly impossible for the expert ophthalmologist to meet the requirements of the situation. The necessity of wearing glasses is more widespread than any other physiological need. Nevertheless the public, as a rule, declines—and very properly so—to go to the specialist for every pair of glasses needed in the family, espe-

cially if this involves a railroad trip to the city and often an exorbitant fee. Hence, their only alternative lies between the family doctor and the practical optician; but most people would, by preference, go to the former if he were equipped and ready to undertake the job. And every time the doctor is obliged to turn a case of this kind away he loses prestige, fee, and prospective business.

We repeat, there is no good reason, except that of the inexcusable "rut," why the general practitioner should not be doing optometric work. Everything else being equal, he is the proper and logical person to do it. He is entitled to it by every consideration of right and ethics, and ought to fit spectacles by virtue of his qualifications.

But there's the rub! For so many years the work of refraction has been regarded as foreign to the general practitioner's sphere that the medical schools have paid but scant attention to the subject, leaving it almost wholly to the postgraduate colleges, to which a man is supposed to go who wishes to devote himself to the specialty of the eye. The result has been that medical graduates have been turned out with practically no working-knowledge of refraction at all. So, the breach between them and this class of work has been widened until they feel themselves utterly unqualified for it, even though they might have an inclination to undertake it.

We urge upon our readers to take up this useful and profitable practice. It is, as we have said, a comparatively easy matter, especially for those who, like the physician, have already a scientifically trained mind. It is based upon a few simple, well-defined principles of optics, readily demonstrated and easily applied.

As to the details of the service, they need, in these days, be no more troublesome to the doctor than those of any other part of his practice. Even if there is not a dispensing optician in the town to fill the doctor's prescriptions for glasses, and if the latter does not care to carry a stock of lenses and frames himself, the facilities nowadays afforded by the large wholesale optical houses are such as to enable him to carry out this phase of the work with ease and promptness. All of these houses furnish their physician customers with catalogs and codes by which to order made-up goods, and a code telegram will, by return mail, bring to the physician's address the goods, nicely put up and securely packed, be it a small or a large order.

We purpose to do, through this journal, all in our power to promote this practice

among our readers and to help them to the performance of this work. We have made arrangements to publish in our leading columns a series of practical articles upon this subject, by an expert refractionist, that will give simple working-instructions for detecting and measuring errors of refraction and for the proper fitting of lenses for the correction of the same. These articles will be of an eminently clear, straightforward, practical nature, so that any physician, with his knowledge of the physiology of the eye, can readily learn from them how to refract.

At the same time we invite our readers to make of this journal the same clearing-house of information and assistance in this subject that they do in every other department of medical practice. Correspondence, queries, and calls for help on any and every phase of the work will be given the most careful and earnest attention at the hands of an expert. We are satisfied that there is here a large and fruitful field of effort and profit, and we shall do our utmost to cultivate it in the interests of our readers.

Of all mean businesses in the world, there are few, if any, more contemptible, more heartless or more economically vicious than that carried on by the man who enriches himself at the expense of the unfortunate consumptive. Of all tainted money, none is quite so dirty as the blood-toll collected by the "consumptive-cure" faker.—*Journal of the American Medical Association.*

DIABETES INSIPIDUS: IS THE PITUITARY BODY RESPONSIBLE FOR IT?

The more we learn about the ductless glands and their secretions, the more complex their functions seem to become. This is especially true as regards the pituitary, or hypophyseal, gland. An interesting addition to the field of speculation in this direction was recently made by Prof. M. Simmonds, of the pathologic institute of St. George's Hospital in Hamburg, who has traced a direct connection between polyuria and diabetes insipidus and the diseased pituitary body. This theory was developed in an address delivered before the biologic division of the Society of Physicians of Hamburg. (*Cf. Muench. Med. Woch.*, 1913, No. 3.)

We already know of the influence of the secretion of the anterior portion of the hypophysis upon the growth of the skeleton; it also seems established that the posterior half (the neurohypophysis), when diseased, may give rise to adipositas hypogenitalis—excessive fat production associated with undeveloped genital tissues; while the infundibulum, or neck

of the hypophysis, powerfully stimulates uterine contractions.

In addition to the diverse activities of that insignificant little anatomical structure—a gland-body until recently ignored as of no physiologic consequence—animal experiments conducted by the British physiologist Edward A. Schaefer have demonstrated that the so-called pars intermedia, the narrow middle section of this organ, elaborates a substance acting upon the renal cells and tubules as a diuretic; and, indeed, a connection between increased secretion of urine and lesion of the pituitary body (that is, in a general way) has been amply established clinically.

To be more specific, following Professor Simmonds's presentation, we knew: (1) that acromegaly and adipositas hypogenitalis not infrequently are associated with diabetes mellitus; (2) that gummos basal meningitis and tumors—any lesion affecting the hypophysis—sometimes engender polyuria; (3) that in the case of a man who had been shot in the head and soon afterward was affected with polyuria, the radiogram showed the projectile to be resting close to the sella turcica.

For all that, definite positive proof remains to be furnished to locate the exact division of the gland involved in the renal stimulation, corroborating in man what Schaefer has demonstrated experimentally for animals.

This needful proof Simmonds believes he has encountered in one human subject; and the facts related may briefly be summarized here.

The patient, a woman of 37 years, had carcinoma of the mamma. The breast was ablated, and the wound healed over nicely. Her temperature was normal. The urine measured about 1500 Cc. per day, had a specific gravity of 1012 to 1015, and was free from sugar and albumin. However, eight weeks after being discharged as cured the woman observed an enormous augmentation in the quantity of the urine voided, and began to experience intense thirst; these symptoms increasing, so that in two weeks more (ten in all) she presented herself at the doctor's office. She now was voiding from 10 to 19 liters of urine of a specific gravity between 1002 and 1003; yet, the liquid contained no traces of sugar or albumin.

Treatment practically was without effect, and the patient died. The necropsy revealed metastatic cancerous disease of the other mamma, of the liver, pleura, spine, and lymphatics of the neck, chest, and abdomen, as also of the skin. No other degenerations

were apparent—the medulla, entire brain, and particularly the kidneys appeared absolutely sound. However—and this is the significant fact—prompted by certain considerations, the hypophysial portion of the skull and brain were carefully separated, and the gland and bone were found diseased.

This is what microscopic inspection revealed: *The posterior bony horn of the saddle was entirely replaced by a cancerous mass; also, the neurohypophysis (the adjoining posterior lobe) also was carcinomatous throughout, this degeneration extending to and including the base of the infundibulum. However, the pars intermedia and the anterior lobe were in no wise affected.*

Upon these premises, Simmonds bases the conclusion that to the pars intermedia of the pituitary gland we must attribute the uropoietic activity observed as a consequence of pathologic conditions in that neighborhood. For, (1) the posterior lobe, being destroyed, must at once be excluded from consideration; (2) ample evidence to hand also eliminates the anterior lobe; (3) this confines us to the pars media, which in this instance was incited to overfunctioning through the adjacent cancerous lesion.

Now, in one way this explanation militates against the assumption of Schaefer that the secretion of the pars media enters the ventricles and circulation directly through the infundibulum, while here this outlet was completely obstructed. As to this phase, however, Simmonds sees no difficulty in postulating absorption of the gland product immediately into the lymphatic and blood currents. In view of all the facts presented, Simmonds enjoins every medical man to subject to a microscopical examination, in case of death, the pituitary gland in every instance of diabetes insipidus and of polyuria.

"Of what practical value," I hear you inquire, "is all this painstaking work. It may be interesting—but how will it help us to cure our cases of diabetes insipidus?"

The first essential in successful treatment is to understand what lies at the bottom. If diabetes insipidus is really due to some disturbance of the pars media of the pituitary body, then our chemists will begin work on that body—will break it up, reconstruct it, determine its exact structure; and, meanwhile, the pharmacologists will be ascertaining exactly how it acts. Take pituitrin, now used with so much success as an ecbolic. Instead of being a single substance, it seems to be made up of *eight* different principles, four of them active, all differing in their action.

Eventually other portions of the pituitary gland will be studied with the same care, and as a result we shall learn how to increase its functional activity, and how to depress it. And the time will not be long before these things will be done.

We live in a time of tremendous activity in the research-world. Our problems are being solved with a rapidity that at times almost makes us hold our breath.

Oh, on my blinded groping way
 Vouchsafe the joy that by my path
 I leave from day to day more smiles
 Than broken hearts, and fears, and wrath.
 My eyes are weak to see the cause
 Why Thou dost let the wicked thrive!
 My heart is prone to jealousy;
 Vain thoughts against my judgment strive.
 —J. Otis Swift.

TWO TYPES OF DOCTORS CONTRASTED

Isidore Lamars always had been a good boy; so good that his aunt left him the income of ten thousand dollars. Isidore decided to become a doctor. He was a model student, always knew the right answers, made beautiful dissections, and his laboratory records were the show pieces of the school. He studied summer and winter and, having a facile mind and retentive memory, knew his textbooks by heart. He never looked into any other book. He was graduated at the head of his class and passed the state-board examination with flying colors.

Adam Bean was the son of a blacksmith. When he told his father he wanted to be a doctor, the father kindly gave him his time. Adam supported himself at college by doing all sorts of odd jobs; washing dishes for his board, doing janitor work for lodging and college fees. Saturday afternoons and Sundays he helped in a drugstore, and after his first year he took charge while the boss ran out to his family's summer home. During vacation, Adam sold books, sawed wood, tended horses, mowed lawns, made garden, did farm work, did any and every thing to make a dollar, yet, somehow could never land any job except one that entailed hard work for the lowest pay.

Adam rarely looked in his textbooks—too busy or too tired. When he had the time he was always helping some doctor operate, going to clinics, dressing at the dispensary or doing something that had little bearing on his lessons. He rarely answered well at quiz, but was apt to get into a discussion instead of

giving the correct answer. At graduation he stood at the foot of his class and barely squeezed past the state board on a second trial.

Isidore faced the world with \$600 a year. He took an office, in which he slept, and lived on his income. He had no money for journals and read none. They mixed things up too much, treating of things not mentioned in textbooks.

Isidore was orthodox and ethical to the core. He never went to church, for fear he would be suspected of seeking practice; never took part in anything of public interest, for he was strictly and only a physician and knew nothing outside his profession; he never spoke unless he was addressed, for he was no buttinski; never acknowledged the salutation of "Doc," for he felt the necessity of keeping up the dignity of the profession; never made a second visit unless requested; always insisted upon turning over his emergency-cases to the regular family doctor, for he was Ethical; never bought any new books or apparatus, for he had no money, and he never investigated any new things, for he waited till the Council had approved them.

Isidore soon became old-fashioned, having an unmovable belief that the textbooks he had studied contained all that was worth while. He got seedy and queer from isolation. The world swept by him.

Adam had no money to rent an office, but he got a job as assistant to a doctor, caring for his horses, cleaning the office, tending furnace, assisting in operations, making night calls, attending charity-cases, and making himself generally useful.

He made good. At the end of a year the doctor took him as a junior partner. Doctor got tired of practice and interested in his farm; took more and longer vacations, left more work to Adam, and finally sold him the practice for a yearly payment. The patients made no kick.

Adam was known to every barber-shop, cigar-store, and livery-stable as "Doc." He hadn't any dignity to keep up. He could laugh like a horse over a funny story and trade horses with David Harum. He never heard men discussing anything but he mixed in. If he knew anything about the matter he said so, if he didn't, he asked questions. He went to church, to lodges, to primaries, and everywhere he made himself known, pushed in and asked for a chance. He raised a commotion over the garbage collection; another over the water supply; a third over the filthy streets; and made himself ob-

noxious to everybody who loved peace and quiet.

It was not long before he found that the methods and remedial measures he had been taught were inefficient, so he looked about for better ones. He took lots of journals and read them; and every new idea that came up he considered and, if it sounded plausible, gave it a trial. He went to every society meeting in reach and pestered every doctor he met to find out things the other man knew and Adam did not. His office was cluttered up with apparatus which he bought constantly, though much of it went to the scrap sooner or later. He was the first man in town to have an automobile and got the reputation of being the quickest to get to an emergency-case.

He never had any money, because there were so many new things coming out that he had to try. Every quack method that became prevalent he investigated, to see what might be in it, following the line of the evangelist who didn't see why the devil should have all the good music. His ethics were looked upon with suspicion or derision, for he was a sure-enough buttinski. But he never did a dishonorable act or spoke a word in detraction of another doctor. He became the busiest practitioner in town and one of its most useful and influential citizens. He went into politics up to the limit, but never had time to take office—might have gone to Congress, but couldn't leave his practice.

One day Adam drove along a quiet back street and on a shabby little cottage he saw a shabby little doctor's sign. Possessed by a sudden curiosity to know who he might be, he jumped out of his auto and ran up the walk and read there, Isidore Lamars. He rang the bell. Isidore answered—a shabby little man, diffident, old-fashioned. Adam greeted his old classmate heartily, asked him bluntly his circumstances, took his arm, pulled him into the auto and whirled him away to the business center. Isidore had hardly seen it for years.

Adam took him into his fine suite of offices and showed him a laboratory newly fitted with the latest and best of everything needful. He explained that he had to have a man to run it for him and told Isidore to take charge at once, naming a sum far above his present income—which was but little in excess of the interest on his legacy.

Isidore hung back, but Adam overruled his weak objections and told him to go to work. He found he had grown rusty, but the newest books were there and soon he found himself

enjoying the work and picking up the threads. After all, he had led a clean life, and his faculties had merely gone unemployed.

It was not long before he began to pick up some of Adam's energy. At first he questioned the ethics of Adam's pushing methods, but Adam took him by the shoulders, looked him squarely in the eyes and said:

"Be honest. Don't hurt your fellow men. Then forget yourself and think how you can help those who need it. That's ethics enough. Study the new things. Don't wait for the Council, however worthy the men may be. Neither they nor any other set of men know it all. If there's good in reach, your patients need it, and it's up to you to give it to them. You can't delegate your duty to any other man on earth."

It was not very long before Isidore found his place—a useful cog in Adam's machine. He came in touch with suffering humanity, and his outlook widened. To be useful seemed more important than to be orthodox; and he learned to fear losing a chance, which meant a human life, more than he dreaded to make a mistake. Under Adam Bean's tutelage, Isidore Lamars bids fair to redeem the promise of his college career.

Neglecting to use your strength turns that strength into weakness.—James A. Worsham.

THE TONIC EFFECTS OF SEDATIVES

An old physician once said to the writer that he made use of no remedies except tonics. His argument was, that nobody applied to the doctor unless he were sick, and if sick he necessarily was weaker now than when well.

This is a fair example of that specious reasoning that looks only at the surface, and does not go into the real merits of a question. It reminds one of the amateur philologist who, finding that the Hebrew verb *kophar* means "to cover," jumped at the conclusion that the Hebrew and the English were identical. A little historic research would have shown him that our word cover came to us from the older word (old French) *couvrir*, older form *coprire*, and this from the Latin *cooperire* (*con* and *operire*, root-word *opus*; which latter has little resemblance to the Hebrew verb *kophar* and Hebrew was a completed, crystallized, dead tongue centuries before Caesar first saw the white cliffs of Albion.

Tonics may be divided into two groups—nutritives, or foods, and astringents. The

latter may, indeed, overcome relaxation and "take up the slack"—a strictly temporary expedient, though, as shown by the fact that not one of those agents can be given as a tonic for longer than a month. Prolong this period, and debility follows. Even iron given too long exerts a hemolytic influence closely resembling that from mercury.

It could not be otherwise, since astringents contract the walls of the blood-vessels and by lessening their lumen cut down the supply of blood to the area of their distribution. In-nutrition, therefore, is a necessary concomitant of the action of tonics.

On the other hand, study the effects of the vasorelaxant group, the so-called sedatives: aconitine, veratrine, gelseminine, cicutine, and possibly sparteine. By relaxing the tension of the arteries, these receive and transmit a fuller volume of blood and thereby enhance the nutrition of the organs.

It is true these agents weaken the force of the heart's pulsations, but in the doses usually employed the relaxation of vascular, and especially of arterial, tension is greater than the weakening of the cardiac impulse. Consequently, the circulation is freer, a larger blood supply is sent into the capillaries, and nutrition is improved. Moreover, one of these agents, veratrine in small doses, increases the strength of the contractions of the heart-muscle as well as of the voluntary muscles.

The bad reputation of veratrum as a very dangerous sedative rests wholly upon its effects in poisoning cases where very large quantities had been ingested. Had this drug been studied from the standpoint of physiologic experimentation, veratrine would have been ranked among the tonics. Instead, it now is a legacy to therapeutics from the domain of toxicology.

The accomplished therapist applies his remedies as the woman coiled the crooked sticks about the kettle—availing himself of the peculiarities of each in little, medium, and big doses to secure the action needed in his case. With the marked power of increasing elimination possessed by all vasorelaxants (sedatives), there are many instances in which truer and better "tonic," or, rather, nutritive, or roborant, effects can be secured by the use of these remedies than from all the bitters and stimulants and astringents in the list.

Though not quite in line with the foregoing, the example that persists in obtruding itself upon my consciousness just now is the use of veratrine to induce sleep when insomnia is due to abnormal vascular or mental tension.

Three granules at bedtime, in a small glass of water, will ensure a restful sleep, even in a man so feeble that he can not walk a mile.

I have often called attention to the extraordinary value of digitalin in insomnias due to vasorelaxation and cardiac weakness. Then the patient is somnolent while on his feet or sitting, because the feeble heart with difficulty elevates the blood to the brain: cerebral anemia induces sleepiness. But when the patient assumes the recumbent posture the flabby cerebral vessels are unable to resist the inrush of blood from gravity, cerebral hyperemia ensues and sleep is impossible. A little digitalin corrects the vasorelaxation and natural sleep follows.

Neither veratrine nor digitalin is a hypnotic. Each induces sleep by correcting the pathologic condition that causes the insomnia; and natural sleep is one of our vitally important agencies for restoring health.

But, how *can* a physician neglect these considerations and prescribe morphine or one of the chloral succedanea for both of these conditions, ignoring their diametric antagonism?

"Is the young man all right who is going to marry your daughter?"

"I have every reason to believe so. He has been audited by the audit company, assayed by the local chemist, tested by the state bacteriologist, certified by the genealogist, and appraised by the medical and surgical staff of the county hospital."—Life.

Respectfully referred to Wisconsin physicians.

DIAGNOSE AND TREAT DIPHTHERIA EARLY

When the subject of serums is under discussion, and especially when their practical value is in critical question, we usually "point with pride" to the record made by anti-diphtheritic serum. And justly so, for of all the serums thus far offered for the cure of infectious disease the antitoxin of diphtheria has best vindicated our reasonable faith in this biologic form of therapy. Indeed, it may be safely said that whenever the antitoxin is given a clear stage and a fair show against the Klebs-Loeffler invader, the outcome of the battle is practically always in favor of the defending force, and therefore favorable to the patient.

Even so, the mortality has not yet been altogether reduced to nil. There still remains a small percentage of these cases which seem to defy even our modern weapons of repulsion, baffle our efforts at defense, and leave us staring blankly and helplessly on a death-

swept field of utter defeat. It is, of course, too much to expect that we shall ever completely and invariably conquer this or any other disease during its course. By preventive measures we may, perhaps, hope to wipe it out of existence some day. But so long as the disease lasts at all there will always be a certain number of cases which, for various unavoidable reasons, will out-play our resources; and this inevitable element constitutes a part of the percentage of mortality that still mars the record of our battle with diphtheria.

It does not, however, account for it all. When due allowance has been made for the inevitable factor, there yet remains a modicum of un-reduced mortality which is not inevitable, but which admits of further reduction, if we will but gird up our loins and put our shoulders a little more strenuously to the task. A certain proportion of diphtheritic patients, it must be confessed, die because of failure to diagnose the disease and apply the remedy in time to profit by the aid of the almost specific serum.

It is to be borne in mind that no serum (and the same may be said of antitoxins and antiseptics in general), however potent or specific, ever completely routs the invading germs and their deadly toxins. The most that it accomplishes, or can be expected to accomplish is, to subtract, by neutralization, a sufficient quantity of toxic material to give the hard-pressed defending forces the balance of power. The marked success of diphtheritic antitoxin must, in net terms, be attributed to the fact that, in quantity and quality, we are able to afford sufficient neutralization to insure the body defenses a good big margin of power. There are also good reasons, which need not be gone into here, for believing that the serum exerts also a certain degree of vaccine influence upon the opsonic mechanism.

Bearing this in mind, it becomes at once apparent that *pari passu* the success of the antitoxin treatment of diphtheria is directly proportionate to the earliness with which it takes the field. It is manifestly much easier to gain, and thereafter to keep, the balance of power against an invading force while as yet it has not obtained any extensive footing. And whatever stimulative, vaccine action the serum may exert is obviously much more effectively exerted while yet the opsonic mechanism is fresh and unexhausted.

The crux of the treatment of diphtheria, therefore, is early diagnosis and use of the antitoxin. It is not a matter of days, but of

hours. We must bear in mind that the blood is the seat of a desperate and close fight and that the least delay in bringing up reinforcements may, and indeed is almost sure to, turn the tide of battle. Fortunately, there need be no such delay for want of facilities to make the diagnosis and procure the remedy. Hardly any physician, in these days, but is within easy reach of a culture laboratory, either private or public; and antitoxin is nowadays supplied in convenient and preservable form for use when needed. We do not commend the practice of waiting until the emergency arises before ordering the serum. The much more excellent way is to provide oneself with a good, reliable, keepable serum, which will be at hand for prompt use when the emergency arises.

Which raises one other point. No inconsiderable factor in successful serum treatment is the quality of the serum; intrinsic purity and potency, first, and, as a secondary and by no means unimportant feature, the degree of soluble concentration, since the nature and action of a serum render its clinical value in direct proportion to the concentration of its solution. Readers of CLINICAL MEDICINE do not need to be told where such desirable antitoxin can be obtained. *Verb. sap. suff.*

The latest definition of an optimist: "One who can cheerfully fletcherize his own quinine pill." Don't be a grouch!

INSPECTION OF DOCTORS' OFFICES

Well, what do you think of that? Wouldn't that jar you? Recent amendments to the sanitary code of the state of Louisiana provide for the inspection of physicians' and dentists' premises, and a scoring-card system similar to that used in the inspection of dairies and tenements. When the score falls below fifty points, charges of infraction of the code are to be made. Among the points to be graded are: "freedom from bad odor," "personal appearance of attendant," "personal appearance and breath of person in charge," "presence of electric fan and library," "general neatness," and "sanitary condition."

Of all the consummate, bare-faced, unmitigated cheek! Why, it's an outrage, an insult! It's—er—er—

Aw, come now, fellers, don't let's get sore. Haven't we been inspecting and legislating and regulating everybody and everything under the sun on the score of cleanliness and hygiene? And isn't it only fair that we take a little of our own medicine? Let's take it

like little men; gulp it down, if it is a trifle bitter, and admit that we were a little below par, and needed a gentle tonic.

Honest Injun, doctor (this is the New Year, and a proper time for open confession, at least among ourselves), are we such paragons of virtue in this respect that every class of men under heaven needs prodding up on the subject except us? While we are making such a hullabaloo about the condition of the streets of Jerusalem, is it quite sure that each one of us is keeping his own doorstep clean? Are there no beams in our own professional eyes that occasionally call for removal, that we may see clearly to take out the mote that is in our brother's eye? Nay, we may go a step further, and question whether all the offices and laboratories of the boards of health themselves always present that exemplary state of orderly, cleanly perfection that might be expected from the apostolic repositories of hygiene and sanitation.

You, of course, dear doctor, have nothing to fear from the enforcement of such a code, should it become general. And think what a capital thing it would be for the other fellow. You yourself are above reproach in the matter, but your neighbor—! He is a careless, slovenly, untidy, sloppy, slipshod chap, really not any great credit to his profession. His hands are always dirty, his person untidy, and his manner uncouth; his office does not make a very inviting appearance, to say the least; his office girl is constantly chewing gum and fixing her hair; altogether, he and his quarters are not just the sort of man and place to which you would care to send your wife or daughter. And, while you don't wish him any harm, you really would enjoy seeing the code inspector swoop down on him some morning and give him a little jolt.

I believe you, doctor. Only—take a little tip—take just the least perfunctory glance around your own place when you see the inspector coming down the street, for fear there may be some trilling, accidental oversight that will give him an unreasonable handle against you.

Joking apart, though—as the salesman said when he returned to the prospect's office after being kicked out of the window—joking apart, there is a serious and timely lesson here, quite irrespective of the Louisiana State Board and its code. We need to take to heart the lesson of personal cleanliness and hygiene which we are forever preaching to the layman, or the pupil will outstrip the master in the very things that the latter is teaching. Perhaps even now the average layman is more

scrupulous in his personal habits and his entourage than the average physician. Perhaps the averages are about even. But they ought to be more than even. There are a hundred reasons why the physician, in his own proper person and in his points of contact with other people, should be more than ordinarily punctilious in matters of cleanliness and sanitation, both physical and moral.

A month or two ago we made a plea in these pages for a pleasant, esthetic, even artistic treatment of the doctor's office. We now enter an equally earnest—yes, an even more earnest—plea for wholesomeness, neatness, sanitarianism to extend from the doctor's own person to everybody and everything in his professional environment and to breathe through the very atmosphere, physical and moral, with which he surrounds himself.

Cultivate the smile that won't come off; keep in mind that a flicker of a smile is worth a whole menagerie of growls. A smiling face and gentle manners not only pay from a business standpoint, but add untold amounts to the sum of good-will among mankind. A grouch or a growl never got a new subscriber or won a new advertiser. Correct habits, sufficient sleep, and a good digestion—which mean, sensible, temperate living at home—produces genuine good humor.—Arthur Capper.

FEDERAL LICENSURE OF THE PHYSICIAN

We are not surprised to see that someone has introduced a bill in Congress designed to create a federal board for the purpose of licensing physicians to practice medicine in any state or possession of the United States. For several years there has been a growing feeling of dissatisfaction with the present conditions governing state licensure, and a simultaneous demand for some form of procedure that would universalize the legal qualifications of practice throughout the country; a demand which was bound, sooner or later, to take shape in some action of this kind.

However, we fear that Representative Reilly's bill does not offer a feasible solution of this important problem. The creation of a federal board has been a pet obsession among the more radical element of the advocates of reform for a number of years; and, indeed, if it were practicable, it would, in many respects, be an ideal arrangement. At least, that is our opinion. Others may question its desirability.

Fortunately, though—or unfortunately—such national control is quite impracticable, if not actually impossible, under our present form of government.

The regulation of the practice of medicine, it must be borne in mind, is an exercise of police-power; and under the constitution of the United States the federal government is not invested with any police power except for the District of Columbia. Hence, Mr. Reilly's bill is in the paradoxical position of invoking on the part of Congress a power which that body does not possess and, under the constitution, can not acquire.

In order to open the way for a bill of this nature to become a possibility, it would be necessary first to change the federal constitution; and we doubt very much whether the country is prepared to take so serious a step on comparatively so small a pretext.

Just the same, the grievance and the need for a remedy, of which the bill in question is an expression, are very real and urgent, and this subject ought to receive the prompt and earnest attention of those who are charged with the administration of the public aspects of organized medicine.

There are more ways of killing a dog than by cutting its throat; there are more ways of taking a rampart than by a frontal attack—many better ways surely can be devised when it is a foregone conclusion that a frontal attack is hopeless.

So, although the possibilities of remedying the present situation by the creation of a federal medical licensing board manifestly are nil, it does not follow that there is no practical and effective way of dealing with it.

One way of getting at the matter would be the organization of some form of commission or general board, as between the various licensing states, this to act as a clearing-house of requirements and qualifications and executive administration; not, of course, to supersede the individual functions of the several state boards within their own respective bailiwicks, but to supplement them in matters of interstate relations. To be sure, an effective working-agreement among the personnel of such a board, each man jealously guarding what he regards as the best interest of his own state, would involve some difficulty; but it by no means would be impossible.

The appointment of one representative by each state—preferably by the governor, under proper advice—would give the necessary weight of authority to that body. And, further, if a member of this interstate board were to hold no membership in the respective state board; if he were given plenipotentiary power to act for his state in purely interstate matters; and if, moreover, he were thor-

oughly instructed and imbued with the idea that his business was to promote interstate rather than state interests; upon these premises, we believe that much of the friction would be eliminated from the beginning and the way opened to an effective, practicable cooperation between the states.

It goes without saying, of course, that such an agreement could not be reached at once; but with plenty of time at their disposal, and absolute freedom to thrash out, on an open floor, all the questions in issue, it would be a hard situation if such a group of men, all honestly and earnestly striving for an advantageous compromise, could not reach some common ground. At all events, there is no inherent impossibility in the thing, such as there is in all attempts to enact federal legislation upon the subject; and it seems at least worth trying out.

Personally, the writer believes that a still more radical step will be necessary effectively to resolve the situation, namely, the complete separation of the educative from the civic phases of medical-practice regulation. To prescribe the educational qualifications that shall be considered as fitting a man to practice medicine, is one thing; to stipulate the conditions under which he shall be permitted to practice in the community, is a different proposition.

The best possible agency for carrying out the first, it would seem, is the profession itself; the other is distinctly the function of the State. In England, this is precisely the condition of affairs which, in effect, prevails. There, the commonwealth does not meddle in any manner with the question of technical qualification; that is left entirely to the General Medical Council. But it does dictate the terms upon which a man may practice as a qualified physician, using the regulations of the General Medical Council as a basis for its stipulations.

In our own country, the same thing is done, but in a clandestine, indirect sort of way. The State is obliged, in the end, to rely upon the profession itself for the stipulation of educational qualifications. It would be far better, in our opinion, to have that part of the system frankly and wholly relegated to the profession, leaving the State to look after the civic application of this and other principles involved.

Whatever is to be done, however, ought to be done, and done quickly. The need, as we have said, is real and urgent. The rapid development of interstate relations within the past twenty years has rendered the yoke

of local restriction intolerable and absurd. The situation is an impossible one. A system of regulation which makes a man an honorable practitioner of science on one side of an imaginary boundary-line and a criminal law-breaker on the other side is as stupid as it is irksome, and justly makes us the laughing-stock of those who stand by and witness it; to say nothing of the hardship and injustice it inflicts upon medical men who wish to change their residence or their place of practice. There ought to be some way of solving the problem without running our heads against the stone wall of the constitution.

The thoughts that rain their steady glow,
Like stars on life's cold sea
Which others know, or say they know—
They never show for me.

Thoughts light, like gleams, my spirit's sky,
But they will not remain;
They light me once, they hurry by,
And never come again.

—Matthew Arnold.

A WORD ABOUT "BREAKING UP" COLDS

We shall have to revise our old views about catching cold. Here we have been stopping in a summer cottage, a little snow outside, with temperature falling at night below freezing; cottage very open, no heater except an oil-stove; yet, we have had no colds. In the city, going on the cars to the office, sitting in a warm room till time to go home to a warm house, we have never a day without sneezing, and sometimes it develops into a cold. Here we work hard, cutting, chopping, sawing, brushing, but have no colds.

Evidently it is not cold that causes colds. Then what is it? Germs.

The germs infest our warm rooms, lying in wait for the moment of vital depression that lowers resistance and permits a successful assault upon our fortifications. Cold checks the activity of microorganisms and, with moderate outdoor exercise, increases our resistance. But even here the boy takes cold, and in this way: Circumstances: fatigue, disappointment, very little food and that not hot, drenched body and feet, with no chance to change, for the best part of the day. Result: headache, fever to 102+ degrees, head hot, feet cold, shivering. Diagnosis: germ invasion under depressing conditions.

Now as for rational treatment. As a germicide, 8 grains of quinine sulphate (the boy is 14 years old). To equalize the circulation, three granules of the matchless defervescent compound, containing aconitine, digitalin, and veratrine. Rest in bed, boy warmly wrapped. The boy slept less than two hours and awoke—well. No fever, headache or other symptom; hungry for his supper.

The rationale of the action of the defervescents here is interesting. At sea, oil is spread over the water, to quiet the waves; the explanation being that the film of oil prevents the beginning rise of the wave; and if there is no beginning there will be no wave.

Here, the aconitine relaxes the spasm of the cutaneous capillaries, allowing them to open up; the blood flows from the hyperemic regions into the relaxed, patulous vessels, and the hyperemia subsides. When there is no hyperemia, there will be none of the succeeding steps—the diapedesis of white cells, rupture of vessel-walls, escape of blood into tissues, and all that.

At the same time digitalin is contracting to normal lumen the dilated vessels of the engorged areas, gently pushing the surplus blood out into the relaxed capillaries—a most beautiful example of that selective action of the cells we have discussed before; a fact which Virchow, the master of cellular pathology, recognized long ago.

Veratrine is added to the combination to get quicker and stronger relaxation, and to stimulate elimination, because the boy is a boy, his pulse strong, the cerebral hyperemia decided.

Here we meet the symptomatic and the pathologic indications with prompt and powerful remedies; and we abort the attack so completely that relief occurs within two hours. Next morning the lad shoulders his ax and keeps up his end of the work all day.

Usually we can abort an incipient coryza by small and oft-repeated doses of calx iodata—if we take the trouble. But sufficient attention has not been given to the action of this defervescent combination or to the conjoined use of quinine. Colds entail so much annoyance and interfere so sadly with the serious business of life that they and their abortive treatment are well worth more study than is accorded them. We dislike much to hear a doctor use the phrase, "Only a cold."

Leading Articles

Out of the Shadow

How a Missouri Banker Conquered Tuberculosis Out in Colorado

By J. L. WOODBRIDGE, Fowler, Colorado

EDITORIAL NOTE.—This article was not written by a physician, nor was it intended primarily for physicians, but rather for the thousands of unfortunates who carry within their bodies the germs of a disease as deadly and as sure as the bullets of a Mauser rifle. Neither is it intended to give the physician instruction in the art of treating tuberculosis. It is intended, however, to show what can be done by the patient himself when heart and soul and body combine to fight for life, under the direction of an able, conscientious doctor.

IT WAS on Christmas day of the year 1905 that I received my first jolt. This occasion is well scorched into my memory. Most of the children had come home to spend the holidays, back in Marshall, Missouri; everything bright and happy—only one drawback. At about noontime I was taken with fever! The family physician was called, and he did about the only thing that could be done—left some medicine to reduce the temperature. Had I but known then of the long years of trouble before me, just beginning, how much of it all could have been saved!

The fever abated, then came back again, intermittently, unexpectedly, till it got to be a pretty regular thing; and always in the afternoon, leaving about six o'clock, just at supper-time. Then two more things happened. My hearing began to fail. I had, for twenty-five years, had crippled ears, a great handicap to a banker. Under the best of aurists, my hearing had held pretty steady, and they had assured me that this condition depended entirely upon keeping up my general health. As I began losing weight my hearing weakened and waned. Besides all this, my nervous system showed ugly symptoms, until every afternoon I had to take a strong strychnine tablet to hold me steady and clear for business purposes.

When spring opened I got a hoe and went to work in my garden, to build up my strength. Do you get that? To build up my strength, mind you! And after an hour of that exercise, in the cool of the evening, I would go to the bath-room to sponge off, my clothing soaked with perspiration, the result of exercise under weakness. Without knowing it,

I was working and sweating off flesh worth a thousand dollars a pound to me. You sick man, listen to that! If you are doing as I did, drop that hoe, right here, and go lie down on your back and rest. Rest!

I am not a warm advocate of violent exercise, anyhow, for the well man who leads a sedentary life. The days of J. P. Morgan were prolonged ten years by his wise physician, who told him, at a breakdown, to take not one unnecessary step; not to walk even a block, but to take a cab. Chauncey M. Depew said he was fifty before he found out it was not exercise he needed, but fresh air.

The whole of the following year was one of a losing struggle, the doctors hunting me over, the aurists fighting for my ears. In September, I took a vacation in Colorado, but not long enough to be of permanent benefit. My physician, one of the noblest men and best doctors I ever knew, was treating me to hold my digestion good, and was watching my physical condition closely. By his advice, my sputum was examined by an expert, but no tubercle bacilli were found. True, the streptococcus, which accompanies tuberculosis, was there, but, as that is present in a hundred other diseases, it proved nothing.

The Danger of Inconsiderate Consumptives

What I shall say now is with the hope of benefiting suffering fellowmen. Among the directors of our bank was an old retired professional man. As I see him now in my mind, I know he had tuberculosis. I did not know it then. My physician evidently did, for he told me that the presence of this old man was a menace, not alone to me, but

also to every employee of the bank; for the man had nothing to do and most of his time sat about the premises as his loafing place. I went to several of our directors and canvassed the grave situation, asking relief. Of these men, only one had the moral courage to approach the old gentleman and frankly tell him of the danger to which he was submitting us all. But he proved to be as obstinate as he was selfish, said he had no consumption and refused to make any change in his habits.

If I had only known what I do now, I should have resigned from the bank right there, though the mischief was really done. The old man afterward admitted he had had consumption for twenty years, but that "he hadn't given it to 'anybody yet.'" In less than one year from that time he was dead from that disease.

Now, in this land today, I venture to say there are thousands of instances just like the one related; tuberculous people working side by side with others—heads of families, delicate women and young girls. Legislation is not far enough advanced to require boards of health to act in such cases. But I want to say, with all the emphasis in my power, that for owners or managers of business concerns to permit such a condition to exist is but little short of a crime.

This is not said with a lack of sympathy for the poor stricken victim; I was one of them myself. But I will say right here that from the moment I was told of my true condition I isolated myself as far as I could and lived almost alone. I did not go to church or public gatherings for years. I felt I had no right uselessly to imperil the health of innocent people.

The Recrudescence

During the following winter my fever abated, but my hearing grew steadily worse. Then, seeking a mild, dry climate, I went to El Paso, Texas, for a short stay. There, the fever again set in. I consulted Dr. John Beckert, who had been recommended to me; an up to date physician out of Washington University, Saint Louis. He examined me thoroughly, and also examined my sputum, but only with the same result as before. However, he went further than the other doctors and told me that if that fever kept up I had better get out of Missouri as soon as possible. And I wish I had taken his advice right then.

After the late cold spring of 1907, during which I continued to lose strength steadily

under that persistent fever, I told our bank-people I should go to Colorado for a stay immediately after our midsummer stockholders' meeting that was to take place in July. The Bank of Saline, at Marshall, Mo., was a solid, prosperous institution, with over a quarter of a million assets. I had been its cashier, and a director for eleven years. At the meeting of the directors, following the meeting of stockholders, they saw fit to elect me president of the bank.

That evening I closed my desk at six o'clock, with everything in shape for a three weeks' absence on my vacation, or rest. Little did I think, as I locked the door of the bank, that my long business career in Marshall and in Saline County, Missouri, was forever closed, after thirty-five years of hard, steady work in banks, in every capacity, from book-keeper to president, and that I was permanently leaving my old home of nearly forty years, where I had lived, married and reared a large family. For I have never seen the place again.

The next morning, with my wife, I boarded a Chicago and Alton train for Kansas City, on the way to Colorado; the place where I was to make my fight for life and which, in the future, was to be my home.

Memories of those dark days stick close to me. I well recall the last day I spent in good old Kansas City at the home of my son-in-law and daughter, Mr. and Mrs. John B. Wornall. And how, the next day, when we arrived at Union Station, Pueblo, friends and relatives were there to meet us.

I was in a weak condition, but kind hands and hearts ministered to me. I have often read of the cold reception consumptives (or "lungers," as they are flippantly termed) meet with in the West. It may be so in some instances; probably it is. You cannot blame people for that. I certainly do not. Nobody can be censured for not wanting infected strangers indiscriminately about, and doubtless the reluctance to receive the afflicted into the boarding-houses has had something to do with the charge laid at the door of the western folk.

As for myself, I have encountered no treatment of the kind. On the contrary, people have been uniformly kind, helping me in my helplessness; for I have never hesitated to declare the nature of my illness, as some people seem ashamed to do. The debts of gratitude for this have piled up against me so large that I can never hope to liquidate

them in this world. Without the friends I have had, I could not hope to be alive today.

The Truth Is Revealed

My own son, Dr. J. H. Woodbridge, then and now in practice in Pueblo, was to be my physician. After a day or two of rest, he took me to his office, stripped me and gave me a thorough examination. The result can be summed up in his own words about as follows:

"You have tuberculosis. I have located it already in at least one spot, the top of the left lung. It shows on you in other ways. Look at your pale finger-nails and ear-lobes. You have lost much flesh, your muscles are soft and flaccid. I shall send you over to Doctor Inglis, to examine you also. You cannot hope to return to Missouri for three months. At that time I may be able to tell you whether you may go back at all or not."

Dr. John Inglis was a physician of repute and ability; then of Pueblo, now of Denver. The finding of his examination was worse than that of Doctor Woodbridge for he reported another infected spot, in the right lung. He said I should not return to Missouri at all. "But, doctor," I said, "what's going to become of my bank?" I shall never forget his reply: "If I were in your condition I would not go back to Missouri, even for one day, for all the banks in the state."

It is the lot of all of us, as we live our lives, to encounter sudden, unexpected emergencies of tremendous importance as to final results. I think it is right here that most consumptives fall down and lose out: they do not seem able to meet the new, unexpected conditions. Many would have ventured back home to "settle up their business," and in doing so would also probably have settled their hash. I had the advantage of the emphatic, grave advice of my son, and it was given me to see how to do just the right thing.

My son-in-law, Mr. G. G. Robertson, now of Pueblo, was one of my assistant cashiers in the Bank of Saline at Marshall. I wrote him of my condition and put the sale of my banking and real-estate interests entirely in his hands, with instructions to close them out as soon as he could profitably do so. This he did, far better and quicker than I possibly could have done myself. And I was footloose to make the fight for my life.

The Treatment

My treatment began. First of all, I was put to sleeping outdoors. This is a *sine qua non* in the cure of consumption. In summer,

it is easy, of course; in winter, one must carefully prepare for it. It is not a hardship it is a luxury beyond compare. Some people think open windows or a tent a good substitute. That is a grave mistake. Further on in this account I shall recur to this again.

The fever hung on. These fevers rarely ever leave during the summer months; it is during the cold, dry winter, in the bracing zero air that it lets go, though mine returned to plague me for three successive summers before it finally disappeared. My clinical thermometer which I carried for years is beside me now in my desk as I write; I keep it as a souvenir. At first I could almost set my watch by it. At one o'clock sharp the temperature began to rise, increasing steadily until it reached about 101 degrees, there to stay till 5 or 6 o'clock.

I continued to grow worse. Every morning, while it was cool, I would take a walk, having to rest every two or three blocks. Some impressions of those walks are with me yet. I would have to pass an undertaking establishment on my way; the caskets were on display, very handsome-looking to a healthy observer, but to me, with the still very uncertain outcome of my condition, their appearance was by no means fascinating and the beauties of their construction in no way appealed to my esthetic tastes. It was gruesome, and I shudder now when I think of it.

Fresh Air and Rest Turn the Scales

As the fall came on I began to grow better, and the scales, to which I resorted every week, began to show some slight betterment; for increasing weight is the test, instead of the doctor constantly tapping one's chest. A gain of even a quarter of a pound a week stands for *better*, and means that the winning of the fight is under way. In October, I went to the ranch of my brother-in-law near Fowler, there constantly improving. In December, my lares and penates from Missouri arrived, and we set up housekeeping in the little city of Fowler.

Everything looked rosy, till one day I began to spit up blood! The doctor came down from Pueblo, said he would a good deal rather it had not happened, looked into conditions, said I had been imprudent in taking too much exercise, and told me to *keep quiet*. It was simply the same story all consumptives have to tell: getting on a little too fast, committing an imprudence or two, then having to go back a month or two. I was put outdoors in an arm-chair during the

coldest zero weather, wrapped in blankets, with a hot brick at my feet, there to stay day after day till the repairs were complete—not even to take a buggy ride. After some weeks of care I was better, much better.

Life on the Farm Proves Beneficial

As spring opened, I decided to buy a small farm. This I did in March, built a large, roomy house especially adapted to get well in, including a royal sleeping-porch. In June, I was improved and buoyant, and we all moved out to the farm three miles from Fowler, close to the Santa Fe trail; with every advantage on my side for a safe, steady recovery.

The farm-life proved to be ideal for my convalescence. I gained rapidly in strength, though I often had little backsets from imprudence. Financially, my farming operations were a sad failure, and, besides, it was a bad year for farming in Colorado, on account of a drought. However, that was a secondary consideration for the time. But I saw that I was about as well qualified to run a farm as Bill Taft was to run the presidency, so, the next winter I rented out my farm for the coming year, retaining the residence and a few acres about the house and barn for garden and such, and then took a step destined to be of supreme importance as to my future. I bought two dozen pure-bred leghorn fowls.

Now, I did this because I wanted something to engage my attention in a way that would keep me out of doors; that would give me something to do in an interesting way and at the same time contribute to my regaining health, which was still the paramount consideration in every move I made. I had absolutely no conception of the final results of this insignificant action. These things constantly happen to a man; the very things that we attach small importance to sometimes prove to be of the utmost import as to the future.

Brilliant Results from a Two-Dozen Hennery

I soon found out that I had struck the ideal thing so far as my health was concerned: something that kept me busy and interested; that required the outdoor living; that demanded no heavy labor. My little chickens soon began to hatch from my incubator, and ere long I had hundreds of nice leghorns. I began to really study the chicken proposition from a scientific standpoint and found it extremely fascinating; enough so to enlist all my brains and mechanical ability.

I kept on growing stronger and stronger in health, and sometimes actually forgot that I still was a consumptive. My flock of leghorns grew in numbers as my health returned. In the fall of 1910, I concluded that my operations were hampered so far out in the country, so I sold my farm and acquired a beautiful 10-acre tract right on the edge of Fowler, Colorado. There I built a modern poultry plant, fully equipped with incubators and modern brooders, and moved thither with my 500 white leghorns.

More and more it was demonstrated that poultry raising is the ideal thing for a consumptive to use as a fulcrum to gain health. There is nothing like it. This work fits every way, for it requires brains, energy, and initiative. As a result of it all, I am today a sound, strong "young fellow" of sixty, with a muscle that I am proud to show; with not a trace of my old enemy about the premises; with the appetite of a boy of fifteen; with the ability to get to sleep five minutes after my head touches my pillow out on my sleeping-porch; and, with all that, a large poultry establishment, conducted by myself entirely, except the rough heavy work; carrying from 700 to 1000 white leghorns of the purest quality; and the reputation of my "Fowler Egg Farm," extends all over the West.

Some Pertinent Advice

Now I desire to say some things to aid directly the afflicted ones, in whom I am always interested. The advanced medical profession is saying nearly everything that can be said for the extirpation of tuberculosis, and my suggestions are intended merely to supplement, not to duplicate, their efforts; for there are many considerations that can be taken up only by one who has been through it all, valuable to the person who is to pass through the fiery furnace.

God bless the doctors! I have known many of them, some intimately, and, with the single exception of the ministry, they are, professionally considered, the noblest, most self-sacrificing set of men in the land; and what I am about to say is not meant as a criticism.

In my contact with consumptives, I have been puzzled to understand one thing; namely, why some doctors have been so slow to recognize tuberculosis and to act upon the diagnosis. I can understand it in some cases—sheer ignorance.

Take a graduate of forty years ago, still hammering away on the knowledge acquired in the medical schools of that distant day, and

who could not today pass the examination of the most modest medical school for a diploma. I asked one of these men a question bearing on tuberculosis, a few years ago. His answer was, "Yes, if there is anything in the germ theory." This doctor doubtless could not have told me who Virchow was, had I asked him; yet, he was practicing in the best families, dealing with diseases the cure of which depended entirely upon the consideration of this germ-theory; and he had been so negligent, or prejudiced, or ignorant that he was totally unaware of the almost daily revolutions in medical science and practice.

One reason, I think, why even good doctors are so slow to utter pronouncements is their ultra conservatism. This attitude, I think, is very wrong. Even in cases of reasonable suspicion, the patient should be given the benefit of the doubt and vigorous steps be taken while he is yet in the condition to work, instead of allowing the disease to progress far enough to put him in the invalid class and thus become an incubus upon his family, his friends or the state, as well as a source of infection.

Yet another reason for the delay in the positive diagnosis is, probably, that they have fewer cases than the doctors out here, who are having them every day; who recognize a tuberculous person almost as soon as they see him, and who jump on a case of tuberculosis instinctively, as a weasel does on a rat.

And there is another class of doctors, small, I am glad to say, which embraces all the conceited ignorance of the profession; who, like Woodrow Wilson's famous college professor, are so thick-headed you "can't get a new idea into their heads, or an old one out." I have even heard of the advice some of this class give their patients: that in going west for tuberculosis it is "not necessary to consult a doctor there; just do what I tell you." What would one of these doctors say to the assertion I make right here: that "no physician, unless he is personally conversant, by his own inspection, with the topography of the state, is competent to advise his patients as to what part of Colorado to come." Mark that down, please.

"Go right to Colorado" is the mandate which has sent many a tuberculosis patient to his grave. No state in the Union has a more varied topography than Colorado. On its eastern edge the altitude is barely 3500 feet, while there are great cities located as high up as 10,000 feet.

The reason why so many corpses are sent back home from here lies right here to a very great extent; patients in advanced stages of the disease are sent to altitudes of 6000 feet or higher, and this often means death; whereas, if they had stopped at a lower altitude till the weakened organs—the heart and lungs—could gradually adjust themselves to the new conditions, there would have been at least a fighting chance for life.

The doctor should know the state and what he is talking about before advising professionally. He should know, for instance, that Las Animas, on the eastern rim of the state, is about 3500 feet above sea-level, and that Leadville and Cripple Creek are both about two miles above the same sea-level. He should know that (say) 4000 or 4500 feet is about the right altitude at the beginning for the best results; that the mountainous section, being damp, is not near so good as the dry plains. And, above all, he should know that he must not attempt to give detailed advice to patients coming out here, except to tell them to seek out the best medical advice attainable as soon as they get out to Colorado.

From my preceding narrative suspicions may be aroused, perhaps convictions—that's better—regarding weight loss or lassitude, which have been going on with some of my readers for a year or so. To them I will say: Take no chances; assume that you have tuberculosis, doctor or no doctor, and act upon it; for I assure you it will be a death-grapple with the most treacherous, most persistent, most insidious foe you ever encountered, worse than Eugene Sue's Strangler. Can you get well at home? No. Can you in the Ozarks or the Adirondacks? Under the best of conditions, probably.

But, why take chances? If you are wise, you will let slip not one single means of recovery; and, my word for it, you will need them all. Open the least loophole, and through the enemy comes. Why, for instance, should my fever suddenly rise to 103, two degrees higher than usual? The answer: feeling better, I had been out shooting rabbits from a buggy, and the jar of the gun at my shoulder had disturbed the healing process of the lungs and aggravated the inflammation. It is watch, watch, all the time.

What Colorado, and a Good Doctor, Will Do

Can you get well in Colorado? I did, and I was in the fifties when I came here sick. You can, under the right conditions. If I have described you right, flee, flee—not ex-

actly to the mountains, but to some good doctor. And look not behind you, for the old days are gone, never to return. Have the courage and manhood to recognize that. I have in mind two sad cases, middle-aged men, who came out here, were doing well, but wanted to see the folks back home; went back on visits and are now in their graves.

And in entering the fight make up your mind to endure more self-denial and use more "grit" than ever in your life, patience beyond your wildest dreams—waiting, waiting while the pure, fresh air is drying up the corroding spots in your lungs. One minute of over exercise, one extra strain, and the work has all to be gone over again. All consumptives have the same experience in this regard. All commit imprudences and learn the bitter lesson just alike. As for the best locality, read the dedication at the beginning of this article. I have written it for you. There are other localities, but I know of none better.

It is the doctor's business to describe the pathology of tuberculosis, not mine. However, I will say, briefly, that the first stage of lesion is inflammation, indicated by fever, loss of appetite and weight; next, ulceration; and the cough and expectoration do not come till this ulceration has supervened. The night sweats come later. As for the treatment, as now practiced by advanced methods, three things are necessary: *Rest, overfeeding, fresh air.* It looks simple, but let's see.

Rest—Air—Nutrition

Rest: All tuberculous lesions are aggravated by motion or action. Jarring of the lung; too much exercise or even deep breathing are deleterious. You can think the rest out yourself.

Overfeeding: Frequent meals of the most nutritious character, and forced feeding if there is no appetite.

Fresh air: Avoidance of congregations of people or even sitting in a room with a company of people. My doctor made the limit two or three. Outdoors day and night. And right here is where Colorado comes in. Unless under right conditions, tents should be avoided. The common small tent is poorly ventilated and is dangerous. A proper tent has a board floor, board sides 3 feet high, screen 3 feet more on top of the board sides, and canvas top; canvas curtains to be used in case of storm. My own preference and use is the sleeping-porch, closed on the north and west, open wide on the south

and east; screened in; practically outdoors. I do not object to the snow blowing in on me. Ten below zero is ideal weather for outdoor sleeping.

Outdoor Sleeping

You might get well without outdoor sleeping, but I doubt it. It is almost impossible to observe it in the east, on account of the moist climate; for when begun, it must be kept up, incessantly, the year round. Here it can be done. Some imagine it a hardship and will not undertake it. I know of at least two spots of ground in Ridge Park Cemetery, Marshall, Missouri, covered with blue grass, the "blanket of the dead," where lie the bodies of two consumptives, good men, who did not have the nerve to meet this requirement out here. It has proved no hardship to me. In summer it is easy to anybody. In winter, when the mercury is 20 below zero or lower, it seems different.

Two mattresses and a feather-bed, flannel sheets, four or five blankets or coverlids, topped with a Galloway robe above. Half an hour before bedtime a hot brick or two at the foot, between the sheets—for it is not necessary to have any shock; an outing-flannel night-shirt, woolen sweater over that, night-cap of woolen stuff, woolen socks; undressing by the fire in a warm room, a rush for the bed to prevent chilling, pulling the covers closely about neck and shoulders, rubbing the nose briskly to prevent nipping, in ten minutes asleep, not even to turn over till morning, and ready for a good breakfast at sunrise.

This is my story. But not all of it, for type cannot tell of the joy of returning health; of the gradual restoration of physical and mental vigor; how, as I grew better and stronger, my old business judgment, sadly warped by my terrible experience, came back to me; how the desire for business activity freshened within me; how I took up an occupation usually sneered at by most people, because it afforded me just the outdoor life needful for me; how I mastered it in all its essential details, up to a successful issue. Nor can they tell of the joys of the dining-room, where with a boy's appetite I found food fit for a king, prepared by the hands of my best friend, my good wife, without whose faithful ministrations through all my troubles, without whose sympathetic warnings in times of temptation to overdo things all the efforts of the doctors and the effects of even the best climate on earth would have availed nothing, and I should not have this story to tell.

The Present Status of Tuberculin Treatment

By A. K. DETWILER, M. D., Omaha, Nebraska

THE wonderful discovery of the tubercle bacillus, the clear cut demands of Koch's postulates, the glamor of a new theory of immunity, and the announcement by Koch that in tuberculin we probably had a cure for the ravages of tuberculosis led a famous pathologist, a few years ago, to hasten the death of his wife by what we now know were too massive doses of old tuberculin.

This early experience, as well as the example of many another zealous but overenthusiastic doctor, has convinced the more conservative members of our profession that in tuberculin we have a two-edged sword, and has prevented the adoption of our most potent single remedy in tuberculosis.

The premature, almost commercial, announcement of Friedmann's so-called cure has led to renewed interest in and a new estimate of the value of present methods of treatment, and especially of tuberculin.

Tuberculin Treatment Cannot Be Used Alone

It must not be thought, however, that tuberculin can be used alone, to the exclusion of other methods of treatment, for its only benefit is to produce an immunity in the blood and tissue against infection by tubercle bacilli, and, what is more important, also to prevent their further spread in the tissues. We are still in doubt if it is or ever will be possible to produce a life-long immunity against the tubercle bacillus. At any rate, immunity is not secured except only by relatively large doses, and, if it seems likely that the patient can not survive the time necessary to work up to these large doses—which alone can save the individual—it may not be wise to begin treatment.

Since 1903 many investigations have been carried on all over the world, with the result that we are now practically certain of two facts: (1) That the greatest proportion of tuberculosis in the human subject, in the form of pulmonary tuberculosis, is carried by infection from person to person, and is caused by the human bacillus. (2) That some tuberculosis in children and adults, generally known as surgical tuberculosis, is conveyed to the body, by way of the alimentary canal, through milk and food, and is caused by the bovine bacillus.

Long development in different environments has led these bacilli, originally of the

same species, to assume markedly different characteristics, till now we have two great divisions, with distinct clinical manifestations of varying type: (1) bovine; (2) human.

As of the bovine type, we regard:

- Tuberculosis of lymph-glands,
- Abdominal tuberculosis,
- Tuberculosis of bones and joints,
- Genitourinary tuberculosis,
- Acute miliary tuberculosis,
- Lupus.

(Perhaps meningitis and some pulmonary tuberculosis.)

As of the human type, we see:

- Pulmonary tuberculosis,
- Laryngeal tuberculosis,
- Secondary tuberculous enteritis,
- Fistula in ano (usually).

There may be a general systemic infection from either type, but it is so rare to see both in the same subject that they may be regarded as antagonistic; and we all know how rare it is for a patient with pulmonary tuberculosis to develop lesions other than the human type.

It is quite possible that the greatest numbers of people are immunized in childhood against infection by human bacilli, and against pulmonary tuberculosis later in life, by infection through milk with bovine bacilli. This mild infection in early childhood, by way of the alimentary canal or neck-glands through the mouth and throat, undoubtedly protects against infection by the human type of bacilli later in life.

This is the clinical basis for using tuberculins of the opposite strain in the treatment of the disease; that is, for the human types of the disease, bovine tuberculin, and for the bovine types, the human tuberculin.

The Varying Virulence of Germs

The variations in the virulence of the tubercle bacilli, as well as the individual resistance, decides whether or not a patient will succumb to the disease; and we often see patients who show no tendency to progress, and who have had tuberculosis for many years. In others, the bacilli are very virulent, and there is but little resistance offered by the body against the attack; and the infection is so rapid that it kills the patient in a few weeks. In these acute, virulent infections, tuberculin is of little value; but in the

less virulent forms, it is the best weapon of attack. It is of greatest service in producing immunity, because it leads to healing of the lung by a process of fibrosis—and fibrosis is the most effective barrier against the organisms which cause mixed infections.

Tuberculin does not revolutionize the treatment of tuberculosis, but, when used with care and a full knowledge of its therapeutic effects, in proper dosage, it is of great benefit. Its greatest use is in early cases, where the deposit of tubercle bacilli is localized, as in one gland, one joint or one lung apex. However, where the tuberculosis is complicated by secondary infections or too widely disseminated, it will not be of much avail.

We have found that the lesions caused by the human type of bacilli are most certainly and quickly benefited by tuberculin of the opposite strain, and in all cases of pulmonary tuberculosis we use only bovine tuberculin. The latter is more easily tolerated, does not cause reaction, is less toxic, and causes a speedier disappearance of the bacilli. In diseases of the opposite type—that is, tuberculosis of lymph-glands or tuberculosis of bones and joints or the genitourinary organs—we use the old human tuberculin.

The Dosage of Tuberculin

To attain success, the dose must be so small as to cause no reaction, and the temperature and pulse must be watched and accurate records of observations kept. We begin with a dose either of the human or the bovine tuberculin of 1-100,000 of a milligram, and then increase the dose every fifth day,

until at the end of twelve to fifteen weeks we have reached a dosage of 1-100 milligram—about as follows: 0.00001, 0.00003, 0.00005, 0.00008, 0.0001, 0.0002, 0.0003, 0.0005, 0.0006, 0.0008, 0.001, 0.003, 0.005, 0.007, 0.009, 0.01. Dilutions are made with a 0.5- percent carbolic-acid solution and are given with every aseptic precaution.

If the dosage as here indicated is followed, a general reaction is a very rare occurrence, while a local one is almost never seen. When the progress is good, as shown by absence of reaction and gain in weight, the dosage may cautiously be increased up to 1-10 milligram, and then kept there, relying rather upon greater frequency of injection than larger doses.

Quite frequently the tubercle bacilli disappear entirely from the sputum at the end of a course of injections; but, if the treatment by tuberculin is not persisted in, they speedily return. Hence, in some cases of pulmonary tuberculosis it is necessary to continue the injection for a long period. While tuberculin cannot be expected to heal cavities in the lungs or to replace damaged tissues, it nevertheless is a valuable aid to other methods of treatment; although, of course, it must be employed with care and discrimination and with a full knowledge of its effects.

In conclusion, we would say that the best we can offer today to a person infected with tubercle bacilli is a prolonged open-air life, superabundance of nutritious food, rest in bed till the temperature is normal, then graduated forms of exercise; together with a course of tuberculin continued for a long period and administered by a careful physician.

THERE'S only one way to be modern—that's to avail yourself of every essentially modern device that offers you greater potentialities and facility in your work. It isn't enough that you can "get the work done," with the methods of yesterday; that attitude makes for retrogression—if consistently held, it will land you back in the cave and change your food-getter from an order-book to a stone club.

—The Caxton.

The Treatment of Syphilis

As Modified by Recent Advances in Therapy

By G. FRANK LYDSTON, M. D., Chicago, Illinois

Author of "Diseases of Society," "Genitourinary, Venereal, and Sexual Diseases," "Sexual Hygiene for the Male," etc.

(Continued from January, page 21.)

GRANTING that the intravenous method of administration of mercury is safe, it would seem to be a very valuable addition to our armamentarium therapeutikum in the treatment of syphilis. I have no hesitancy in saying that it is possible to bring the patient safely under the full physiologic effect of mercury within forty-eight hours. Argument is unnecessary to prove the value of the treatment in certain emergencies. When it is carefully given, accidents should be infrequent.

I am convinced that where the entire dosage is accurately placed within the lumen of the vein no reaction whatever will occur, providing the tourniquet be removed from the arm after the insertion of the needle into the vein and before the discharge of the mercurial solution has begun. I failed to remove the tourniquet in Case 5, with the result that the portion of the vein between the tourniquet and the needle was practically cauterized, with a consequent phlebitis. This inflammation passed away in a few days and left an indurated vessel, which probably now is useless for further injection. In Case 10, considerable inflammation resulted on one occasion at the site of the injection. In this instance, I am confident, I perforated the posterior wall of the vein, thus permitting a few drops of the injected solution to enter the perivascular cellular tissue.

As to the location of the injections, either the median basilic or median cephalic vein in the forearm is an eligible site. The accessibility of these veins, however, varies, and some other site must sometimes be selected. I have found that any prominent and accessible vein will answer the purpose.

Increasing experience has shown that other salts of mercury, such as the succinimide, are as useful for intravenous medication as is bichloride.

Another point worthy of consideration is, that the intravenous injection of mercury, like that of salvarsan, is best suited to meet symptomatic and emergency indications. However, introduced in this manner, it is eliminated so rapidly that for routine use

it is not so serviceable as the intramuscular method.

Quite as wonderful results in meeting the prescribed indications are sometimes secured from the intravenous administration of mercury as from salvarsan. Its effects, moreover, are more permanent.

Some of the Other Drugs in Use

Iodine in Syphilis.—Iodine still is useful in syphilis, although destined to be made less popular by salvarsan. Like salvarsan, iodine is an emergency and symptomatic remedy. It does not permanently cure syphilis, in which respect it probably bears another resemblance to salvarsan.

Iodine is especially useful when given in alternation with mercury. Its action may be formulated in this wise, viz.: (1) It liberates and makes active any mercury stored up in the system. (2) It aids in elimination of mercury. (3) It eliminates syphilotoxins. (4) It hastens the breaking down, removal, and elimination of syphilitic cell deposit.

Iodine idiosyncrasy often is a stumbling-block in the use of the drug. This often may be overcome by: (1) Adding Fowler's solution to the iodine. (2) Giving enormous quantities of water in connection with the iodine. (3) Increasing the dosage of iodine very gradually. (4) Giving frequent hot baths.

"Idiosyncrasy" often means a sluggish kidney; hence, measures to lessen the work of the kidney and increase its functional activity are indicated.

Iodine is best given in the form of the potassium, sodium or ammonium iodide. Potassium iodide is the most generally useful. Sodium iodide is better tolerated by the stomach, hence, especially adapted to the treatment of syphilis in women and children. There are on the market several combinations of vegetable alkaloids and nucleins with iodine. These remedies often are useful, but do not, and can not, ever replace the inorganic salts of iodine. For patients with very delicate stomachs, the iodide of starch is serviceable, beginning with 5 or 10 grains three times a day.

By careful administration, the iodides may be given in enormous doses. The author has

given as much as 900 grains daily for several weeks. Salvarsan is destined to displace huge doses of iodide in many cases.

New Remedies for Syphilis.—Salvarsan and the newer salts of mercury are valuable additions to our drug armamentarium for syphilis. The claims for all other "new remedies" are rubbish, save in so far as these same may act as adjuvants.

Arsenic, especially in the form of sodium cacodylate, is a useful tonic in syphilis. Fowler's solution also is an available tonic preparation of arsenic.

Cacodylate of sodium has been extensively exploited as a specific in syphilis by men of little or no authority in syphilology. It is a useful tonic, but not curative, and has no specific action. It may be given intramuscularly in doses of 3-4 of a grain daily, or 3 grains every second or third day. It is dispensed in convenient glass ampules. The drug should be administered by deep intramuscular injections.

Small doses of mercury act as a tonic in the case of many debilitated patients. Keyes has elaborated upon this method of increasing the hemoglobin.

Iron often is of service. The old pil. duo, containing 1 grain of iron and 2 of mercury, is very useful.

The Salvarsan Treatment of Syphilis

When the first furore of excitement over "606" was at its height, I expressed the opinion that the newspaper syphilologists and worshippers of strange therapeutic gods, like the stage queen in Hamlet, protested too much. Further, I prophesied that, when the commercial enthusiasm calmed down and cold experience assumed sway of professional judgment, dioxydiamidoarsenobenzol would take its legitimate place in the therapeutics of syphilis, i. e., that of a valuable adjuvant in the treatment of the disease.

I have not changed my views. That salvarsan will prove to be a symptomatic rather than a curative remedy, is possible. Its action on the spirochete justifies optimism, but some years will be required to decide this question. Tertiary manifestations occurring half a century or so after apparent cure by mercury are not reassuring.

The time test is as fair for the one drug as for the other. Commercialism or ignorance alone—or both—underlies the wild, dogmatic statements of the miraculous curative properties of salvarsan. This applies especially to those who glibly assert that a single treatment with salvarsan is equal to

many months' treatment with mercury—a statement which those who make it can not support by anything more tangible than simple guesswork.

The experience of years is the balance in which to weigh therapeutic speculation. Numerous remedies and methods have been "touted" as marvels of efficacy. Iodide of potassium once was believed to be a magician's wand; sarsaparilla was accounted a gift of the gods; McDade's mixture was the fairy godmother of all good little syphilitics. And then came "near-salvarsan"—sodium cacodylate—the specific therapeutical properties of which are "all in your eye."

Having leaned toward the side of conservatism and having waited until I felt that I was warranted in forming conclusions, possibly what I now have to say of salvarsan comes with better grace than it would if I had received the new drug as the remedy that was destined to wipe syphilis off the map, as per the magazine and newspaper schedules.

Salvarsan is of great value in meeting the following indications:

First: Prompt removal of severe genital lesions, thus lessening the danger of infecting others, the danger of detection, local discomfort, and the danger of destructive local complications.

Second: The prevention or prompt removal of disfiguring skin lesions.

Third: Precocious, or malignant, syphilis and obstinate destructive lesions, especially of the face and nose.

Fourth: Resistance to or intolerance of mercury.

Fifth: Early nerve and brain and all visceral lesions, with the exception of renal syphilis, in which latter I consider salvarsan especially dangerous. In late lesions of the nervous system, its use occasionally is justifiable.

Sixth: Syphilitic cachexia or anemia, often the consequence of a combination of over-treatment and of the syphilis.

Seventh: Severe and rapidly destructive lesions of the throat and obstinate lesions of the tongue.

Eighth: Syphilis involving the organs of special sense, excepting lesions involving the retina.

Ninth: Early tabes or, exceptionally, in late (not terminal) cases, in the hope of relieving severe pain or involvement of the sphincters.

Tenth: Infantile syphilis.

Increasing experience has shown that the drug is not promising in most cases of loco-

motor ataxia. Occasional early cases, however, are, apparently, checked by it. That the psychic effect sometimes is an important element, probably is true; but, even admitting this, why withhold the hope of benefit unless contraindications are positive?

Some Facts About the Wassermann Reaction

The Wassermann test in general is invaluable in salvarsan work, but is not always necessary, more especially as a preliminary. In primary syphilis, it is of no service, and in later cases the clinical behavior of the case often makes the Wassermann test superfluous for the time being, although useful in the future study of the case. In passing, I wish to relate a recent experience with the Wassermann test:

A certain Chicago physician—a pioneer and acknowledged expert in the Wassermann work—reported a case of a physician in whom syphilitic ulceration of the throat was diagnosed by “two prominent Chicago specialists.” He, the Wassermann-expert, “showed by the Wassermann test that the specialists were wrong,” etc., etc. Later, the patient’s blood was examined at a well-known laboratory, the experts of which also asserted that a negative Wassermann test proved the specialists’ diagnosis to be wrong. A few weeks later, the case was diagnosed by New York experts as one of Vincent’s angina.

Nevertheless, the “specialists” who made the “error” in diagnosis still were obstinate. These “specialists” chanced to have been Dr. Joseph Zeisler and myself. The case was as plainly secondary syphilitic ulceration of the fauces as any we ever had examined; in fact, Doctor Zeisler was rather piqued that I should have asked his opinion of so plain a case. I had requested him to see the case, merely to confirm, for the patient’s benefit, a diagnosis which apparently was plain. The sequel is interesting. The patient visited me several months later and requested that I prescribe for him, stating that he had had three positive Wassermann tests within a month.

In a case of my associate Dr. Carl Michel a series of positive Wassermann tests were obtained after repeated negatives during a period of two years.

In certain obvious, or even probable, tertiary conditions, where the Wassermann reaction is negative, we should be governed by the clinical phenomena of the case. The same is true of obscure nervous manifestations presenting a clear or even probable

history of lues, but showing a negative Wassermann reaction.

The Indications for Salvarsan

To insist upon the Wassermann test as the sole criterion of the necessity or advisability of the administration of salvarsan, obviously would limit this drug’s usefulness. The field of usefulness of salvarsan will be greatly enlarged by less arbitrary insistence on the Wassermann test and more careful study of the purely clinical aspects of syphilis in their relations to the use of salvarsan and of its indications and counterindications. Syphilologists were doing good work with mercury and iodide long before the Wassermann test, better work than salvarsan alone seems likely ever to accomplish.

The advantages of salvarsan should not be restricted to masters of laboratory technic, nor even to practitioners who are within reach of those who have mastered it. Incidentally, the use of the drug should not be restricted as a mere sop to selfishness and commercialism.

Apropos of the Wassermann test, much depends upon the reliability of the “tester.” Laboratory findings vary widely. Personally, I am at present enjoying the advantages of what I believe to be very reliable work in my own laboratory, in which the tests are made by my associate, Doctor Michel, whose technic embraces some apparently admirable original features.

Contraindications for Salvarsan

The contraindications for salvarsan have come to be pretty well recognized. Paresis, advanced tabes, late degenerative brain lesions, acute febrile disturbances, alcoholic inebriety, advanced arteriosclerosis, and organic heart lesions are generally accepted as contraindicating salvarsan. I would again lay stress on the danger of salvarsan in renal syphilis.

My associate, Doctor Michel, has shown by a series of observations under my direction that the reaction of salvarsan given intramuscularly is much more severe during the early secondary phenomena, especially if the patient has a rise of temperature.

I would suggest that possibly we may err on the side of conservatism in some of the more serious brain and cord lesions. In many of these, there is nothing to lose and everything to gain, and by using moderate or even full doses of salvarsan we may occasionally do great good. In any event, the

patient and his friends are entitled, in such cases, to the benefit of the doubt. An occasional fatality in cases which are generally admitted to be hopeless should not bar the use of salvarsan in all of these cases.

I do not quite agree with those who assert that salvarsan should not be used for diagnostic purposes. The Wassermann test is not infallible, and cases arise in which salvarsan is of great diagnostic service, notably cases of suspected malignancy, e. g., lesions of the tongue, where the Wassermann test is negative, and the microscopic findings are not positive. There are many instances of serious and destructive lesions with an obscure history, an absence of spirochetæ, and a negative Wassermann test where salvarsan may be imperatively indicated.

When Salvarsan is Superior to Mercury

As to the results from salvarsan, I am free to say that, while I have occasionally seen quite as remarkable benefit from intravenous injections of mercury, salvarsan is, on the average, much more trustworthy for speedy and definite action. In emergency cases in which I am doubtful as to the safety of giving salvarsan, however, the intravenous administration of mercury is my mainstay.

Renal syphilis aside, the condition of the kidney is, in general, a most important point in its relations to the administration of salvarsan. Markedly sluggish renal action is a contraindication for the drug. When actual organic renal disease is present, this applies with especial force. Syphilis complicated by renal disease of whatever kind should be excluded from consideration in the use of salvarsan.

Especial caution would seem advisable in cases where large doses of iodides have been given for a prolonged period.

In arteriosclerosis complicating syphilis, the impaired kidney—which usually is a part of the cardiovascular pathology—rather than the vascular changes *per se*—is the element which makes the administration of salvarsan dangerous. The entrance of a full dose of salvarsan into the circulation is safe in direct ratio to the rapidity of elimination of the drug.

The intramuscular and subcutaneous methods—especially the former—here are safer than is the intravenous, because with them absorption is relatively slow and the emunctories are not overtaxed suddenly. Where emergencies are not to be combated, the intramuscular method often is more effective as well as safer by reason of the slow absorption

and correspondingly slow elimination of the drug.

Granting the truth of the foregoing premises, it is obvious that a careful urinalysis prior to the use of salvarsan is a wise precaution.

The frequency of retinal complications in renal disease, the frequent recurrence of optic neuritis and the atrophy following the administration of salvarsan suggest that routine study of the renal function as a preliminary to the use of salvarsan may not only show a relation between marked or even incipient renal disease and the peculiar action of salvarsan upon the retina, but may assist us in avoiding such accidents.

As regards the problem of the danger of pernicious action of the drug on the normal kidney, study of the urine after the administration of salvarsan has failed to show renal disturbance. Animal experimentation, it is said, shows that the drug is dangerous to the kidneys of dogs; but only clinical observation of the effects on the normal human kidney can aid in forming therapeutic conclusions. Personally, I have observed no renal disturbance following the use of salvarsan where the kidneys were sound. I think it wise, however, to order the patient to drink an abundance of water before and after the treatment.

What I shall say later of the large quantity of fluid usually used in intravenous administration of salvarsan may seem inconsistent with the foregoing. I believe, however, that any slight temporary renal benefit derived from 300 cubic centimeters of normal salt solution is more than counterbalanced by the disadvantages of the method.

Salvarsan an Important Addition to the Armamentarium

Whatever the experience of others, I have concluded that, at the present writing, salvarsan has greatly increased our resources in the therapy of syphilis, and that it is our most valuable emergency and symptomatic remedy. As to permanent results, time alone will show. I confess that, while I am in a decidedly receptive attitude, my skepticism grows with increasing experience. That mercury, intelligently given, is the proper follow-up system to clinch the good done by salvarsan and bring about a permanent cure seems obvious. Our experience with salvarsan has not yet arrived at the point of exclusion of mercury and iodides.

Where salvarsan alone is relied upon, relapses are more frequent and earlier than

where the case has been controlled by mercury alone. However, certain cases either are resistant to or intolerant of mercury, and salvarsan is, in these cases, a *sine qua non*.

Reverting to the value of intravenous injections of mercury, I will state that recently I gave to an early ataxic salvarsan intravenously. At the same time I gave mercury bichloride in 1-2-grain doses intravenously in a similar case. Both had typical syphilitic histories. The Wassermann test was negative in both; spinal fluid not examined. The result from salvarsan was negative. Improvement in the case treated with mercury was marked after the first injection and, after three injections, astonishing.

The Methods and Technic of Injecting Salvarsan

The intravenous method of administering salvarsan is best in emergencies; it is least annoying and least painful. The intramuscular method, because of relative slowness of absorption and elimination, gives better results where speedy action is not indispensable.

My aim has been to simplify and decommercialize the technic of the salvarsan treatment. The smaller the bulk of the fluid menstruum within the limits of safety, the better. It is not wise to traumatize muscle or cellular tissue with a large amount of injected fluid or to throw an unnecessarily large quantity of fluid into the circulation; indeed, this sometimes is dangerous.

Absolute asepsis is necessary. This is difficult to attain in one's office, although not impossible; but, where possible, a properly equipped operating-room is best. I now uniformly give the intramuscular injection in my office, never the intravenous.

For intramuscular injection, either the lumbar portion of the erector spinæ or the glutei should be selected—preferably the latter.

For the intravenous method, any accessible vein will do, the median basilic or median cephalic preferred. The skin is prepared in the usual manner and then painted with tincture of iodine.

In the intravenous method, the vessel may be exposed by incision, if necessary (which it very rarely is, and then oftener in women than in men). Care should be taken not to apply the tourniquet too tightly, else the arterial supply will be cut off and the veins made less prominent and, therefore, more difficult to enter. The needle for the intravenous method should not be larger than a

No. 21 or 22; that for the intramuscular injection should be about a No. 18.

Technic of Intramuscular Method

For the intramuscular method, I prefer suspension of the drug in iodized oil of sesame, 10 percent, rubbing up the mixture thoroughly with mortar and pestle. I use from 3 to 6 cubic centimeters of the iodized oil, slowly injecting half of the dose upon each side of the spine or the glutei. The needle should be detached from the syringe before injecting, to ascertain whether or not a vessel has been punctured. If a vessel has been entered, a new puncture should be made. Gauze or cotton and collodion as a dressing completes the operation.

The degree of local reaction from the intramuscular method varies. Some patients are glad enough to keep quiet for several days; others refuse to lay up for more than a few hours. It has been my experience, however, that some of the latter regret their obstinacy a day or two later. There is occasionally a slight rise of temperature, 101° F. being the highest I have observed.

It is noticeable that in some cases there is neither local nor general reaction following the administration of salvarsan; yet, a more or less marked reaction, with local tenderness and pain at the site of intramuscular injection and a rise of temperature, both after intramuscular and intravenous methods, develops later. This is pertinently suggestive of advisability of rest for several days, in most cases.

Technic of Intravenous Method

For the intravenous method, I employ the Luer syringe, using only 10 cubic centimeters of sterile salt solution, mixing the dose in a mortar. I have used as little as 5 cubic centimeters, with no untoward results. As soon as the solution becomes clear after the drop by drop addition of a 15-percent solution of sodic hydrate, the fluid is filtered and injected.

Time spent in endeavoring to neutralize the solution is time wasted, for precipitation results and filtration merely removes a greater or less quantity of the salvarsan. The alkaline solution, moreover, is absolutely unirritating when the technic is proper. Any local disturbances following the operation indicate, not irritation from the drug, but some fault of technic. The quantity of sodium hydrate necessary to produce a clear solution seems to vary somewhat with different samples of the salvarsan.

The fluid, constantly, kept at blood temperature, must be injected very slowly. The rapid flow of blood dilutes the drug so thoroughly, if slowly injected, that it is absolutely shorn of irritating properties. A gauze dressing completes the operation.

Causes for Local Reactions. Repetition of Dose

Local reaction following the intravenous method means one or several of the following:

1. Infection.
2. Injection of the fluid into the circum-vascular cellular tissue.
3. Penetration and injection of the wall of the vein.
4. Transfixion of the vein and injection into the sublying tissues.
5. Too rapid injection.

Patients usually suffer very little inconvenience after the intravenous method, many of them none whatever. In some there is a slight rise of temperature; in a few, a rise of 3 or 4 degrees. Psychic shock occasionally is met with.

Independently of the result of the Wassermann test, I think that it is wise to repeat the

dose of salvarsan in about four weeks. Subsequent treatment should be governed both by the Wassermann test and the clinical course of the case.

If the clinical aspect of the case shows that the first dose of salvarsan was ineffective, the Wassermann test is superfluous in deciding the necessity or time for a second dose. Where there has been marked improvement, or complete removal of symptoms, the Wassermann test, if available, is an excellent guide for the second dose.

On general principles, however, the second dose would seem to be indicated, irrespective of the result of the Wassermann test. A second blow at the already weakened infection is likely to be much more effective if given early than if deferred until a positive Wassermann reaction, showing a recrudescence of activity, is obtained. This, like some other heresies in this chapter, may not be ultrascientific, but appears to me to be common sense.

Thus far, I have seen no special advantage in the use of neo-salvarsan.

(To be concluded.)

The Precipitins and Their Relation To Meat Inspection

A Method of Identifying the Animal Source of Meat

By C. G. SAUNDERS, B. Sc., V. S., Toronto, Canada

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IN THE handling of meats and the preparation of meat food-products, attempts are sometimes made to substitute meat of a lesser quality and value for that of higher quality and price. When large portions of meat and bones are available for examination, the task of identifying the animal to which they belong is not impossible to the expert inspector. In the case, however, of finely minced meats, such as form the contents of sausage and bologna, mince meats, and the like, it is practically impossible by ordinary methods to detect adulterations in the form of inferior meats.

Chemistry and the microscope, except as to horse-meat, fail to give reliable results, but the biological method will readily differentiate the component parts of which a mixture of meats may consist. It may also be advantageously employed for the positive identification of the blood of the various mammals.

The method is based on the formation of substances in the blood-serum of animals which received for a period of time the blood-serum or muscle extract of other animals belonging to some different species of animals.

If, then, such blood serum (rabbit) is added to the blood-serum or muscle extract of an animal of which the blood-serum or muscle extract served the preparatory treatment of the animal (rabbit), a cloudiness will develop in the latter, which, on standing, results in a precipitate. The substances thus formed in the blood-serum of an animal injected with the blood-serum or muscle extract of another animal of different species are termed precipitins, and are designated as sero- or musculo-precipitins, according to whether the serum acquired its precipitating activity in response to the injection of blood-serum or muscle extract.

For practical meat inspection purposes these reactions are specific; because, although closely related animals, such as horse and ass, sheep and goat, and so on, each give the reaction for their species, the meat inspector's object is to prove adulteration and fraud.

I have mentioned the blood-serum reaction because, although not concerned with meat inspection—except in rare cases, where identification of blood of different animals is called for—of its bearing upon forensic medicine. I have not had the least difficulty in distinguishing the blood of cattle, sheep, and swine. The reaction is extremely delicate, it being possible to recognize blood in a dilution of 1:50,000. To quote Haliburton: "To discover whether the stain is blood or not, is by no means a difficult problem; but to distinguish human blood from that of the common mammals is possible only by the biological precipitin test."

The various textbooks on meat inspection that notice this test at all pass it by with scanty mention, as beyond the scope of the meat-inspector, because being so surrounded with technical difficulties as to be impracticable. In order to satisfy myself as to whether ordinary care in the technic would suffice or not, I conducted the following experiments in the college laboratory:

Experiments with Serums and Seroprecipitins

Blood-serum from a bullock, a sheep and a hog was collected into sterile bottles and kept in a cool place. Then three rabbits were marked, in the ear, 1, 2 and 3, respectively.

Rabbit No. 1 received 10 Cc. bullock-blood serum, subcutaneously, every other day for twenty injections. In like manner rabbits Nos. 2 and 3 were injected with the blood-serum of the sheep and the hog, respectively. The only precautions taken were, to employ a sterilized hypodermic syringe and to paint the site of the injection (just behind the shoulder) with tincture of iodine. In no instance did the injections cause any untoward symptoms or appear painful to the subjects.

After the twentieth injection the rabbits were given three days' rest. They were then killed, their blood-serum was collected, and this placed in sterile bottles numbered, respectively, 1, 2 and 3. Another rabbit, one that had had no injections, also was killed and its blood-serum collected for control. Next, three pieces of paper were prepared by allowing drops of blood from a bullock, a sheep and a hog, respectively, to dry upon them. These slips of paper were

separately placed into test tubes, labeled 1, 2 and 3, and the blood dissolved out with 10 Cc. of double-normal saline solution. The table below shows the reactions occurring upon the addition of a few drops of the respective serums and the control-serum. The reaction, where such occurred, was first of all a distinct cloudiness, later flocculi appeared, and lastly a grayish-white precipitate settled to the bottom of the tubes. In the following table the reactions are recorded with an X; absence of reaction is indicated by an O; viz.:

Rabbit-serum.	Test tube No. 1.	No. 2.	No. 3
No. 1	X	O	O
No. 2	O	X	O
No. 3	O	O	X
Control-serum	O	O	O

In each case serum No. 1 was added to tubes 1, 2, and 3. Serum No. 2, to tubes 1, 2, and 3. Serum No. 3, to tubes 1, 2, and 3. Control-serum, to tubes No. 1, 2, and 3.

A differential test was then carried out. A piece of paper stained with a mixture of the blood of a bullock, a sheep and a hog now was prepared, the mixed blood was washed off with normal saline solution, the solution filtered, and the filtered solution treated with a few drops of all three rabbit-serums and the control-serum. All three serums gave the reaction, but the control gave none. These reactions took place whether the blood stain was freshly dried or had been dried a month. By further investigation I found that moderate heat did not interfere with the precipitating power of serums, but that excessive heat destroyed it completely.

Owing to the difficulty of procuring blood-serums of other animals to experiment with, I was unable to investigate further; however, von Rigler, Nicholas, and Vallee have found it true for the blood-serum of the dog, horse, cat, deer, and other mammals.

It appears, therefore, that even with the simplest manipulation this method of blood identification is quite reliable and well within the bounds of practical application by a qualified veterinarian.

My next series of experiments deal with what is of greater importance to the meat-inspector than even the identification of blood; namely, the differentiation of meats. It is a firm conviction in the public mind that sausages may contain, besides pork and beef, other meats, such as dog- and horse-meat; and the question may at some time confront the analyst as to whether this is actually so.

The following experiments, if duplicated, will, I think, place in the hands of the meat-inspectors a positive means of determining the truth of this contention, if need be.

Experiments with Musculoprecipitins

In this series of investigations, blood-serums of various animals were replaced by muscle extracts. Extracts were made from the muscular tissue of bullocks, sheep, and hogs with distilled water, the proportions being, muscle 1, water 19 parts. (Martel.) The muscle-tissues were macerated for six hours, filtered, and placed in sterile bottles labeled Nos. 1, 2, and 3.

Three rabbits, earmarked, respectively, 1, 2, and 3, received subcutaneous injections every other day for twenty injections. After the twentieth injection the animals were rested for three days, then killed, and their blood-serum collected into sterile bottles labeled Nos. 1, 2, and 3. It was found necessary to prepare fresh macerations of muscle-tissue for each injection, because of the rapid putrefactive changes.

As in the case of the blood-serum experiments, rabbit-serums Nos. 1, 2, and 3 gave reactions with their corresponding muscle extracts 1, 2, 3, and with them only. It was found that, no matter what mixture of muscle extract was made, the corresponding rabbit-serum gave the reaction. For instance, if

beef and hog extracts were mixed, beef- and hog-rabbit serum each gave reactions, but if tested with sheep-rabbit serum no reaction occurred.

During my investigations samples of sausage, bologna, and mince meat were tested, also corned beef and pickled pork, and in every instance the reactions took place. With cooked meats, on the other hand, the results were not so good. Extracts made from the center of a roast gave fairly good reactions, but those made from the better-cooked portion were not typical. The method of making the extracts for these tests was identical in each case, that is, macerating 1 part of finely divided meat with 19 parts of distilled water for six hours. The extract to be tested was then diluted with an equal amount of double-normal saline solution, filtered, about 10 Cc. of this placed in a test tube, and a few drops of the respective rabbit-serum added.

To sum up, the foregoing investigations have shown the biological methods, through the agency of the sero- and musculo-precipitins, to be reliable, and within the reach of the meat-inspector, for the identification of mammalian blood, and of uncooked muscle-tissue, such as is liable to be used for the adulteration of meat-products. The manipulation is not complicated, while the serums will retain their activity for a month at least, if kept under favorable conditions.

Making Good in Medical Emergencies

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE.—Last month Doctor Candler gave us an introduction to a series of short articles, each complete in itself, on medical emergencies. This month he presents a very interesting chapter, in which acute alcoholism and apoplexy are discussed. Other topics will be considered in alphabetical order.

I. ALCOHOLISM

WHEN sufficient alcohol has been consumed to cause loss of consciousness, the conditions demanding the attention of the physician may be serious. First, it is essential to exclude definitely the possibility of trauma, for not infrequently the inebriated individual either "falls hard" or is knocked down, either by a vehicle or some one with whom he has had "a disagreement." Persons "found unconscious" in an alley, and brought home or to the physician's office by strangers, should always be examined with particular care and, if possible, the names and addresses of those conveying or attending them should be ascertained.

Unfortunately, it is not easy to differentiate the stupor of concussion of the brain from that of simple alcoholism, and when the inebriate suffers a cerebral injury—without visible lesion—it is almost impossible to arrive at a definite conclusion. The drunken man usually breathes stertorously and his pulse is full and bounding; in concussion, the respiration is shallow and the pulse weak and fluttering. The pupils of the alcoholic may be either fixedly dilated or contracted and the conjunctivæ are congested; in concussion the pupils are equally contracted and sensitive to light, but in severe cases marked dilatation may be present. In both conditions the individual may be aroused by shaking and shouting his

name. The temperature of the ordinary "drunk" may be as low as 90° F.; in concussion or compression of the brain alone, no such marked reduction occurs.

"Knock-out Drops" May Mask the Diagnosis

The city physician must also remember the possibility of chloral poisoning—"knock-out drops." The convivial stranger with a "roll" or an attractive young woman who is inveigled into some questionable resort not infrequently receives this poison in a glass of beer or a cocktail; if the stupor which follows is regarded by the physician called in as simple alcoholic insensibility the criminal really responsible is enabled to get far away from the scene and possible punishment before "the murder is out." In chloral poisoning the chloral odor can sometimes be detected on the breath, the face of the victim is livid, the pulse slow and very weak. The respirations are diminished in frequency and the surface of the body is cold. There is usually complete muscular relaxation and the reflexes are abolished. But—if any considerable quantity of alcohol has been consumed also, these symptoms may be masked.

However, in every case of suspected alcoholism (apoplexy having been excluded) the sooner and the more completely the stomach is emptied the better; the character of the vomitus will, as a rule, clear up matters considerably. Unless the physician is positive that he is dealing with a plain case of "too much John Barleycorn," the ejected matter should be saved for subsequent chemical examination.

Treatment of Acute Alcoholism

Loosen the clothing about the neck and waist, then administer, hypodermatically, 1-10 grain apomorphine hydrochloride, and follow, if possible, with lavage. The stomach is rarely emptied thoroughly by vomiting, and flushing of the viscus with warm salt or boric-acid solution is distinctly beneficial.

If the patient is not conscious by this time, but responds in some degree to shaking, shouting, and the like, keep this up, or better still, get him on his feet between two able-bodied assistants and keep him moving—that is, if heart action and general condition are satisfactory. If this does not suffice, dash hot and cold water alternately over the face and chest or slap the chest and abdomen vigorously with a cold wet towel. As soon as he can swallow give a cup or two of strong black coffee. If the condition is grave, pour this into the stomach through the tube after

lavage. In emergency, eight ounces may also be thrown into the rectum. If urine has not been voided, catheterize under aseptic conditions. The patient should, if possible, be wrapped in hot blankets.

Even in the more pronounced forms of alcoholism the procedures described will usually result in a return of consciousness. Persistent unconsciousness denotes a more serious poisoning or injury. Only rarely in simple alcoholism, but generally if chloral or other narcotic has been taken, does it become necessary to stimulate the patient or to produce artificial respiration. Such stimulants as strychnine and ammonium carbonate may be administered with advantage, especially if there is a suspicion of chloral poisoning. Ammonium carbonate, in 10-grain doses, is the best "sobering-up" agent with which I am familiar. It must, of course, be given in plenty of water. A full dose of olive oil (six to eight ounces) is also efficacious. Given to a man who is "all lit up," it will soon sober him so that he can transact business.

Delirium Tremens

It is generally supposed that only chronic inebriates "see pink snakes." As a matter of fact, the most violent attack of delirium tremens I have ever observed occurred in a man of forty after his initial debauch, which lasted exactly one night. The habitual drinker will tell you that "the fellow who eats can drink also," and it is a fact that abstinence from food increases the liability to delirium.

As a rule it is not at all difficult to diagnose a case of delirium tremens. However, very similar symptoms may be present in meningitis, and an oncoming erysipelas may cause a furious delirium. In every case it is well to examine the lungs so as to be able to exclude pneumonia. In the early stage of delirium the patient is restless, fearful and suspicious of everyone. He "sees (and hears) things." If not engaged in killing snakes or chasing pink mice, he will be actively engaged in some other imaginary employment.

Such a patient talks or mutters incessantly. Now and then he attempts to walk up the wall in a dignified manner. The next minute he may embrace the physician or he may try to brain him with the very first thing that comes to hand. His demonstrations of friendship, therefore, are distinctly undesirable. Those he usually loves are now his worst enemies, and he will destroy his most cherished possessions with infinite glee. The hands jerk, there are tremors of the muscles and tongue, and, not infrequently, he retches

constantly. The tongue is usually coated and the pulse soft and rapid. The temperature may be high, especially in the later stages, when a typhoid state may obtain. It is during this stage that erroneous diagnoses are so often made, for very often the relatives foolishly try to hide from the physician the real state of affairs.

The Treatment of Delirium Tremens

The patient suffering from delirium tremens must never be left alone for a minute, and his attendant should be physically well able to handle him. The doctor should be careful during his administrations not to get into a position where his patient can take an advantage, for even the most dignified physician may "look like a rodent" to the sufferer, and he will do his best to destroy such "vermin." As a colleague expressed it, "After one has been knocked silly once or twice and bitten a few times in some particularly tender portion of his anatomy, he ceases to have a really tender feeling for jimjams in either sex." Such individuals are distinctly dangerous not only to themselves, but to others and need stern repression. They should be put to bed and restrained with a stout sheet fastened under the mattress.

Sleep does not come readily to the victim of delirium tremens. In the more violent forms, it is advisable to administer cautiously a few whiffs of chloroform and then, during the short period of tranquility, give a hypodermic of apomorphine. If the patient *can* be held quiet, the syringe may initiate proceedings; a tenth of a grain of the drug usually has a quieting effect. The stomach and bowel emptied (by emesis, lavage, and enema), the patient may receive a dose of chloral hydrate per rectum (grs. 20 to 30) or 15 grains of chloral with 30 grains of sodium or ammonium bromide by the mouth.

Hyoscine hydrobromide (gr. 1-100) may be substituted for the bromide-chloral mixture, and hyoscine-morphine-cactoid, in moderate dosage, is even more satisfactory. The primary effect may be maintained with hyoscine, as it is rarely desirable to give morphine in any large quantity to such patients. Quite small doses of apomorphine administered at longer or shorter intervals will control the nervous phenomena, and pilocarpine may be added with advantage.

The pulse must be watched, of course, and under certain circumstances strychnine with digitalin, cactoid, caffeine or sparteine administered. Usually, however, it is *first* necessary to secure thorough relaxation and elimi-

nation. During the stage of depression capsicin should be given with strychnine, and quassin or other bitter tonics may advantageously be added. Clam bouillon and hot milk with Vichy are the best nutrients.

II. APOPLEXY—CEREBRAL HEMORRHAGE

Intracranial hemorrhage may occur at any age, but it is rarely observed in persons under forty. Syphilis, lithemia, alcoholism, nephritis, and other conditions which have a tendency to cause deterioration of the blood and to produce arteriosclerosis predispose to its occurrence. Exciting causes are muscular effort, excitement, anger, fright, overheating or overeating, and overindulgence in stimulants. Advancing age is, of course, an important factor.

There may be symptoms premonitory to the "stroke," such as vertigo, headache, a sensation of fulness in the head, ringing or buzzing in the ears, tingling of the hands, and the like; but not infrequently the patient falls suddenly unconscious or is seized with a convulsion, without any premonition whatever. In some cases he retires well at night and in the morning cannot be aroused. Still more rarely, paralysis may come on without coma or marked disturbance of consciousness.

Lesions and Symptoms

Naturally the character of the symptoms depends upon the location and extent of the hemorrhage. The most frequent essential lesion is rupture of a miliary aneurism, some branch of the middle cerebral artery being most often involved. Hemorrhages in the cortex, cerebellum or pons are usually small; those in the vicinity of the base extensive. In such cases, coma is usually profound, the face suffused or cyanotic (in syncope and epilepsy it is blanched), the respiration rapid, full, and "snoring" or stertorous. A peculiar puffing of the cheeks accompanies expiration. The pupils are unequally dilated and do not respond to light. The pulse *early* is full and slow, the tension normal (in syncope it is absent or feeble); but, later, pressure decreases and the pulse becomes rapid.

There is more or less paralysis of one side of the body. Hemiplegia is deemed *complete* when arm, face, tongue and leg are affected; *incomplete*, if any of these parts remain normal. It should be remembered that paralysis generally occurs on the side opposite to the lesion. Very frequently there is a peculiar rotation of the head and ocular deviation towards the side on which hemorrhage has occurred. While all the muscles—even the

sphincters are relaxed, the paralyzed limbs, if lifted, fall as a dead weight.

The temperature is usually subnormal, but, should the patient survive, it rises within twenty-four hours to 100° or 101° F. The skin is cool and moist, and the reflexes are abolished. The affected limbs may at first be warmer than the rest of the body.

It is really not at all difficult to recognize this condition quickly, yet the mistake of giving stimulants has been made with surprising frequency. Naturally, whatever chance the patient has is materially minimized by such inadvised and dangerous treatment. In favorable cases, properly treated, after six to twelve hours the coma grows less pronounced and the patient can be partially roused; his condition at this time resembling deep natural sleep. Slowly full consciousness returns and the reflexes are finally reestablished. Now the paralysis of the tongue becomes fully apparent, for speech is difficult, though liquids can be swallowed more or less easily. With these later stages of the malady, however, we will not concern ourselves—the *emergency* has passed.

Treatment of Cerebral Hemorrhage

Undress the patient and put him to bed immediately. Put him on his back, with the head and shoulders moderately elevated, and see to it that nothing presses upon the vessels of the neck. Then apply cold to the head and heat to the feet and legs. Be careful not to burn the skin.

Arterial tension, if high, must be reduced as quickly as possible. If you are sure of yourself, and your patient is a short-necked, plethoric individual, do not hesitate to bleed— withdrawing ten to twenty ounces of blood. Glonoin, gr. 1-128, every twenty minutes is recommended by many competent clinicians, but, since it dilates the cerebral vessels, I rather prefer veratrine and aconitine in alternation. The veratrine (gr. 1-64) is given hypodermatically every half hour, and aconitine hydrobromide (gr. 1-800) dropped into the mouth. Large amounts of fluid must not be given the patient, since swallowing is im-

possible; but if a solution of aconitine is administered, drop by drop, it will be absorbed.

When cerebral hemorrhage merely *threatens*, give a briskly purging drug which, alternated with lobeline sulphate in full dose, hypodermically, will often avert the danger. In every instance prompt and thorough evacuation of the bowel is essential, and claterium has long been regarded as the purgative of choice. Unfortunately it is not always easy to get claterium down, even if an active preparation of the drug be available. Under such circumstances, 2 drops of croton oil, in emulsion, milk or a little melted butter, placed well back on the tongue, will prove effective. Of late 2 grains of pure magnesium sulphate, dissolved in 30 minims of water and given hypodermatically, has been found a prompt cathartic by me.

As soon as the patient can swallow, follow with calomel, gr. 1-3, and claterin, gr. 1-6, every half hour till four to six doses have been taken. As the lower bowel is frequently plugged with feces, flush it thoroughly with warm soap-suds. Catheterization is, of course, essential, the bladder being emptied every six or eight hours.

Solanine hydrochloride is to be preferred to the bromides if there is persistent muscular twitching, but lobeline sulphate and free elimination will usually overcome any tendency to convulsions. The cold cap should be kept constantly upon the affected side, and arsenic iodide or calx iodata given steadily to promote absorption of the clot. Daily doses of the saline laxatives—preferably with the addition of colchicine—are essential during the stage of resolution. Sometimes small doses of strychnine are useful after subsidence of the acute symptoms. The drug must, however, always be given with great caution. Cactoid would, I feel confident, meet the indications more satisfactorily.

Before closing the subject I would again urge the physician to study well the condition present in his patient, and to review the physiological action of glonoin before giving that drug as a routine initial medicament.

(To be continued.)



Some Accuracies of Practice

The Correlation of Precise Methods of Diagnosis and Treatment

By B. G. R. WILLIAMS, M. D., Paris, Illinois

EDITORIAL NOTE.—This is another installment of Dr. Williams' series of articles, in which he is telling us how to correlate the facts given by the clinical laboratory with our plans for the treatment of disease. The articles are intensely interesting, and exceedingly practical.

Urea

THE valuation, clinically, of urea, I think you will agree, is the most important of the quantitative urinalyses; and, yet, I dare say no two of us will entirely agree upon all the diagnostic and prognostic phases of the urea estimation. Moreover, many men, including some who are regarded as keen clinicians, hold rather hazy ideas in this regard. The surgeon (whether of the class A double plus, x, y, z or zero) will lay down rigid rules, and then promptly ignore them. Ofttimes he will shrug his shoulders (as only one who belongs to the A class can shrug them) when urea is reported low, for experience has taught him the lesson that this evidence, taken alone, is quite worthless and the prognosis is as much a gamble as before.

Reconcile, if you can, the various statements of standard texts, and you will have gained a much more comprehensive idea of the meaning of low urea than many of the authors possess. I hasten to say that in my experience, representing the examination of quite a few thousand urines, as a rule high urea is uncommon and demands no treatment as such. If urea is increased in hyperthyrea, carcinoma, and the many other conditions cited by the texts, such increase has not been striking in the cases examined by me.

To comprehend the significance of low urea in a given case, we must first of all understand that decreased elaboration is quite as likely to prove the explanation as is decreased elimination. And to prove that failure of manufacture may be held responsible instead of retention, it is quite imperative that we reckon not with the urea computation alone, but take into consideration other urinary findings.

Thus, in acidemia and acidosis, we have seen that low urea is to be explained by the fact that volatile precursors are utilized by the body to neutralize in part the poisonous acid products, so that the fixed alkalis of the tissues may be spared. Furthermore, we know that anything which injures the parenchyma-unit of the liver may prevent, in part at least, the elaboration of urea. Neither do we need to recount the urinary findings

that may give us the clew. With a scanty proteid diet, we cannot expect the kidneys to eliminate 32 Grams of urea daily. Where would they find it?

Having carefully considered the many, many factors concerned in low urea, let us turn our attention to the question of decreased elimination.

Urea, as you know, practically is nonpoisonous, but is a very active diuretic. In the acute nephritides, urea is elaborated by the liver in practically normal amounts (at least such is the case until late, when this organ may suffer secondary injury); but, coming to the diseased kidney, it may be retained in part.

I say "may," for in acute nephritis, where such normal nephric parenchyma as is present cannot quickly compensate, urea retention is invariable.

However, in chronic kidney disease, where time is given for compensation, uninjured cells may take upon themselves the duties of those which are dying; and, so, *in some cases* the urea may be perfectly eliminated during long periods of time. Such a compensation is easily broken; but, do not do this, as I have seen recommended, just to prove the diagnosis, for you may place your patient where treatment is in vain.

Experience, however, will teach any true student of nephritis that urea elimination is rarely perfect, even in the chronic cases, for these apparent exceptions are not true inflammations, but secondary injuries due to poisons, infections, and so on—the so-called nephroses, which are not progressive unless the cause be progressive. In other words, the progressive, or true, kidney inflammation, be it acute or chronic, probably invariably is associated with true urea retention.

Prognostic Import of Delayed Elimination of Urea

Let us now turn our attention, for the time, to the prognostic import of delayed urea elimination.

We know that, while urea scarcely is poisonous, the kidney which fails to excrete all

available urea coming to it simultaneously falls short in some of its other work. We are confronted by a problem identical with that considered in the several functions of the hepatic cell. For, if the kidney-unit can not pass on into the urine the most perfect of diuretics, how can it hope to eliminate the unknown toxic substances that contribute to the syndrome termed uremia? And, so, the daily elimination of urea not only may give us an idea as to the diagnosis (other findings considered, as cautioned above), but will index quite accurately the outlook and what may be expected in case we do not hasten with the treatment.

The therapeutic problems are somewhat different from those supplied by functional hepatic incapacity (urobilinogenuria). Only the liver can do the liver's work; and, so, hepatic cells must be whipped to this work, if they will not or can not perform their duties in the cell community. Fortunately, however, we do not find it necessary to force the kidney to excrete urea; and this is well, indeed, for experience has taught us that in a true inflammation kidney stimulation must eventually prove kidney irritation, and compensation, consequently, be false. When urea, the perfect diuretic, fails to stir to action discouraged renal cells, what can we hope to gain but disaster from the use of caffeine, squills or diuretin?

And, so, we may spare the kidney, for we may call to our aid the other emunctories. Urea retention should not suggest to the therapist that urea in the urine must be increased at once; but rather that it and the poisonous bodies which hobnob along with it must be rushed out at some other exit, that the inflamed tissues be given a rest (indicated in every inflammation) and the uninvolved portions be permitted time to compensate, *that later, both the urea and the urine poisons may be passed by the proper route.*

How to Protect the Damaged Kidney

How may we do this? First of all we are advised to prevent waste. Waste, we know, always is of a poisonous nature; and our remarks at this point must include urea, for, though scarcely considered a poison, but rather a harmless combination of poisons in health, it cannot so be considered when held back in the blood and tissues.

Thus, the proteid diet must be reduced, although, of course, these food principles cannot be absolutely excluded. Certain of the other waste matters that are to be avoided

have been thoroughly considered under albuminuria and its treatment, so that we shall not pause to detail them. Besides these, we must eliminate such waste as cannot be avoided, including perhaps the essential poisons of uremia.

Now we must call upon the bowel and the sweat-gland to help us out; and, so, elaterin and saline cathartics for the former and sweating-packs and pilocarpine for the latter are indicated. Here our drugs are severe and even dangerous. Experience has taught us that in the desperate case much more can be expected from the sweat-gland than the bowel. Personally I have never seen results from the bowel route alone, in trying to get rid of urea and its poisonous associates. The main stunt of the bowel is, to pass liquids from its lumen into the body-tissues—not *vice versa*; and it resents persistent attempts to force upon it this *vice versa* function.

In our extremity, we may appeal to the sweat-gland, however, and this expedient rarely will fail us. We have learned that the sudoriparous apparatus may quickly adapt itself to the seasons, but always inversely to the renal activity; and, so, in disease, with but little persuasion it will take upon itself many of the kidneys' functions. We have proven in the laboratory that the sweat-gland may eliminate urea; but, better still, we have shown at the bedside that it may eliminate the "uremic poisons." Accordingly, we serve pilocarpine and hot-packs, and these glands get busy. Treatment may be pushed in a desperate case, but the heart must be watched closely and vomiting prevented if possible. Dosage will depend upon circumstances. If heroic (not foolhardy), the results often are astounding.

As to Other Renal Tests

The reader may wonder what I am about to say regarding other functional kidney tests. I will tell you. The 24-hour urea estimation, taken in connection with a knowledge of the diet and other urinary findings, may be considered the most valuable functional test known to clinical chemistry. This test could, perhaps, be made even more valuable to diagnosis (but not to prognosis) if we were conscienceless enough to play with suspicious kidneys.

Where the urea test misleads once, the phenolsulphonephthalein test misleads twice. The color tests cannot be precise; and, if so, are based upon arbitrary standards that have no relation to what the kidney would like to

do (the normal kidney just loves to excrete urea), and we have nothing to prove that such standards are correct. These substances are extraneous, and, hence, we do not know whether or not they chum with the poisonous bodies causing uremia.

The enthusiasm of the men who are using and writing of the phenolsulphonephthalein test may be explained when our attention is directed to the fact that they do not seem to know how to use the urea-computation methods, but base conclusions upon urea percentages in single specimens. The average man, of course, knows better and cannot but be amused at this lack of understanding upon the part of such "experts."

Total Nitrogen

We have seen that much may be learned from the study of the urea elimination. It is well for us to keep in mind that all of the nitrogen excreted by the urine is not in the form of urea, but in part as ammonia or ammonia-like bodies, amino acids, and so on; all of these being rather simple nitrogenous compounds, more poisonous than urea and scarcely true diuretics. Of course, ammonia rarely occurs free, but rather in combination, especially with acids. Normally the liver works up perhaps four-fifths of the proteid waste into urea.

Far be it from me to enter deeply into a discussion of total nitrogen and its variations, subjects so important to the diagnostic laboratory worker, but which may better be studied in texts than in a series of practical articles of this nature. Nevertheless, it is well for the practitioner to keep in mind that low urea is not always proof of kidney disease; and he should understand why this is so.

Thus, as we have stated, in hepatic diseases, acidemia, and acidosis, there is decreased elaboration, but the total nitrogen excreted by the kidneys may not be reduced considerably. It is well to keep in mind that the acidemias and acidoses, although marked, may even be masked by increased ammonia. This is an important diagnostic point, especially in regard to the intestinal intoxications when indicanuria is persistent, although calculation by Folin's method may fail to show high acidity. Here, besides treating the cause, we may find that the ammonia output may be reduced by good-sized doses of the fixed alkalis, especially by sodium carbonate.

Total Chlorides

We have been told to treat nephritis with sodium chloride. In turn, we have been

cautioned that this salt will not be properly eliminated, but retained in the circulation and tissues and thus favor development of dropsy or of albuminuria.

Now we are again being urged by all means to use sodium chloride in nephritis.

Medicine is a strange profession, after all; and it is pretty hard to keep in fashion. We get together and form medical societies. By and by these societies (not for profit) become rich and set aside groups of physicians (and laymen), to keep us informed as to the value of drugs. Promptly they show up an old standby and condemn it in no uncertain language. Therefore, we throw aside (maybe) such a drug as useless, only to find tomorrow that this same group of men have changed their opinions once more. One man arises in medical colloquium and advises the use of a solid diet in typhoid fever. A colleague drags him over the coals—but the argument ceases, with neither converted. By and by we fall prey to the Eberth bacillus and are obliged to call these two men into consultation—but we are getting off our subject.

Martin Fischer and others have satisfied themselves that sodium chloride should be administered in all cases of nephritis. This makes my medical library look pretty shabby, for I find, upon referring to my books, that common salt has been suffering from social ostracism so far as the nephritic is concerned. As a matter of fact, Fischer's theory, while beautiful and no doubt partly correct, still is only theory and unfortunately has been carried a bit too far.

Would you believe it: looking over my files of a certain medical journal not long ago, I was surprised to see dozens upon dozens of pages given over to the authors of the phenolsulphonephthalein test and the treatment of nephritis just referred to, long articles of "stuff," and scarcely a casual mention of urea functional tests or details about salt-free diets.

Every experienced laboratory worker surely has observed the phenomenon of salt retention in renal insufficiency; and every physician who has tried salt-free diets, especially in the parenchymatous cases, has been struck by the favorable influence these have exerted upon the symptoms, if not upon the course, of the disease. This is a circumstance to be expected, for, when retained, sodium chloride results in hypertonic body-fluids, favoring oliguria, albuminuria, edema, and decreased perspiration; the latter condition doubtless being the most unsatisfactory of all in the treatment of the nephritic.

I need not go deeply, in this article, into the subject of salt-free diets except to review a few principles.

The first move is, to cease the use of salt both in the kitchen and at the table. If the patient is a meat-eater, this will work a hardship. And now comes another caution; for we know that meats contain considerable amounts of sodium chloride, and meats should almost be excluded from the diet of patients where fifty percent of the urinary sodium chloride is retained. The most satisfactory results, according to Forchheimer, have been obtained in vegetarians.

I will repeat once more that a milk diet is most advantageous; but such a diet must not be rigid even from the first, for, though we are able thus to reduce sodium chloride, we are increasing the albumins. Besides, few pa-

tients will stand for such a diet; and this holds especially in the chronic cases. However, milk forms an excellent basis for the dietetic treatment. To it may be added the carbohydrates and fats almost as desired, the proteids, however, mainly in the vegetable forms.

Remember that when less salt is taken with the food the patient shows a tendency to take less water, and concentration of the urine, decreased perspiration, and so on, are likely to result. *When decreasing the salt, by all means, increase the water.*

The urinary chlorides are temporarily reduced in many other conditions, such as diarrheas, fevers, and so on; but invariably this is followed by a compensatory increase if the kidneys are not diseased.

(To be continued.)

An Ophthalmologist in Egypt and Palestine

By FLAVEL B. TIFFANY, M. D., Kansas City, Missouri

WHEN one leaves behind him the clinics of Vienna and Budapest, and, traversing the length of the Adriatic Sea, enters Greece by way of the port of Patras or of Peiraeus, he is in many respects already in the Near East. For, Athens is the only city in Greece which is in any sense modern; and the smaller towns and villages suffer from a lack of sanitation and civic improvements, hospitals, and physicians. The kingdom is poor and struggling. The government maintains in Athens a university, which includes, of course, a college of medicine; but I thought the equipments primitive and meager.

However, I saw Athens at an inopportune time to judge of its civic enterprises. For at the time of my visit the Balkan war was raging, Greece was depopulated of able-bodied men, the university had become a barracks, the hospitals were taxed to receive the wounded who were every day being brought back to Athens from the front, and eye clinics were practically abandoned. We saw some purulent ophthalmia in Greece, but only upon reaching Alexandria, in Egypt, did we realize what a scourge the disease can become.

Alexandria—"The Dirtiest City in Egypt"

Alexandria enjoys the distinction of being the dirtiest city in Egypt, and that is saying a great deal. This city has large commercial

and shipping interests and a considerable foreign population; yet, little progress has been made toward making it a desirable place of residence. It is situated on the sandy coast plain and is more or less hemmed in by the desert. A strong wind from the sea or from the desert seems always to be blowing, and the dry filth of the streets is swept about with the grit and sand at every gust.

It would seem that the natives almost without exception suffer from Egyptian ophthalmia and its varying sequelae; on every hand we saw cases of chronic trachoma or of some affection of the cornea, such as leukoma, staphyloma, and anterior synechia. We had scarcely disembarked from our vessel when a dragoman, or licensed guide, with one bulging staphylomatous eye came up to offer his services to conduct us about the city. It is, in fact, a matter of some difficulty to find a native servant whose eyes are not more or less affected. Some of them go for treatment to the few English oculists who are located in the city; but a greater number of the natives seem to look upon ophthalmia and probable blindness as a sort of visitation of Providence. The clinics which are held are crowded to their utmost capacity, and, yet, the number of patients treated forms but a small part of those who go their way without ever seeking medical advice.

We found the same conditions prevailing in practically every Egyptian city we visited, with the exception of Cairo, where we saw far less of disease. But there are a number of reasons to account for this.

Cairo and Its Environs

First, Cairo is a great cosmopolitan city; perhaps in a sense the most cosmopolitan in the world. For it is the meeting-place of the East and the West. Then, its unrivaled winter climate draws to it every year thousands of travelers who come there to spend the winter months. And, because their money forms the source of support for no inconsiderable number of the native population, the latter must, of necessity, make some concessions to civilized demands.

As a result, Cairo is today not very different from the ordinary European city. It has broad, paved, clean streets throughout the European section, fair systems of lighting and transportation, a water supply, and a sewer system. Even the native quarters are fairly presentable, because these residents wish to draw to the bazaars European and American buyers. What there is of disease and filth—and there is enough of both—is less offensively conspicuous than it is in other cities of the Levant.

The country immediately about Cairo is very fertile and the city has no untoward amount of sand or dust to contend with. And, lastly, there are large forces of English troops quartered in the citadel, besides a fairly large resident European population. Kitchener himself, who has been no less assiduous in his efforts to upbuild Egypt than he was to subdue it, has maintained a residence in or near Cairo for the last fifteen years.

For these reasons, I think, the sojourner in Cairo sees less of Egyptian ophthalmia among the natives of the city. But in all the eye clinics—and there are in Cairo about a half dozen very capable oculists—Egyptian ophthalmia or its sequelæ form some eighty or eighty-five percent of all the cases. And in treating disease the physician not only has to contend with existing pathological conditions, but with the ignorance, poverty, and filth which engendered and which perpetuate those conditions.

If Cairo is making, year by year, long strides toward cleanliness and the safeguarding of public health, certainly this cannot be said of Palestine. Here the ignorance and superstition of the people are coupled with the ignorance and superstition of the government. For Palestine is, of course, a part of Asiatic Turkey, subject to the misrule, or perhaps the lack of rule, of the Turks. Sometimes we were amused by the instances told us of official opposition to change or progress.

Sad Conditions Found in Palestine

But the inconveniences which the traveler in Palestine must undergo, and the depression he feels at the filth, hunger, squalor, poverty, and disease that surround him from the hour of his touching the shores of the Holy Land until with relief he finds himself on a vessel bound for Port Said, leave little room for other impressions. Whether we found ourselves surrounded by Moslems in the great mosque of Omar, or by fanatical wailing Jews before the ruins of the wall of Solomon, or by blind and maimed Christian pilgrims toiling to this shrine or that, we cherished the same conviction, that what all of them alike need is less religion and more boracic acid.

I visited with interest the only ophthalmic hospital of which Jerusalem boasts—a British hospital maintained by the old order of the Knights of St. John. I found in charge of the hospital two clever young British practitioners, Doctors Heron and Thompson, who, considering their meager equipment, are doing careful and thorough work.

Here they have no end of material. Their waiting-rooms are crowded daily with patients who come afflicted with every form of ophthalmia known to science, it seemed to me; and the doctors are making the most of their opportunities. For glaucoma, they were making La Grange's operation in some cases, and in others that of Elliot. In their clinics I thought that at least ninety percent of their cases were of Egyptian ophthalmia or its sequelæ. But among the large numbers they treated daily—from one hundred to a hundred and thirty—they met with a most diversified experience, which ought to give them some day an authoritative voice in British ophthalmology.



The Conflict of Conscience

By CHARLES GILBERT DAVIS, M. D., Chicago, Illinois

EDITORIAL NOTE.—This month Doctor Davis completes this most interesting article, which has already run through two issues. In this installment he gives his remedy for the burdened conscience, which (as is shown) is a most potent cause of disease. The remedy is—confession. Learn from Dr. Davis what confession can do for the patient, and why doctors should learn to be "confessors."

Confess your faults one to another,
that ye may be healed.—THE BIBLE.

III. THE CONFESSION

IS IT possible that in this storm and stress of the conflict of conscience there gleams no ray of hope? Has nature abandoned her struggling offspring and the law of evolution become powerless before a foe that is devouring the advance guard of earth's sentient beings? What must we do to be saved?

Can we by any means still this warfare of the soul, drive back the phantom of fear, and bring peace, tranquility, and health to the stricken body and the trembling spirit? Let us see.

From the study of the psychology of man himself, we shall be able to find the key that will enable us to unlock the door of mystery.

Man Seeks Release From Burden

A burden, whether of the body, mind or spirit, is something from which we seek to be relieved. And usually we avail ourselves of the first opportunity for relief.

If it be of the body, we seek physical means; if of the mind, we may employ logic; but when the spirit is wounded we seek sympathy, love, and forgiveness.

In order to find a pathway to the relief of a burdened conscience, we resort to confession and its consequent sympathy. A real, deep, genuine, heartfelt confession opens the flood-gates of vitality, brings happiness and health. It restores the equilibrium of the internal secretions and heals the wound. It is the gateway leading from the bloody field of carnage to the green fields of peace; from a rock of torture to tranquil rest; from darkness to light; from disease to health; and from guilt to forgiveness and to God.

Every man who in his relation to himself or his fellow men violates his standard of right or wrong suffers from this conflict. His error becomes a burden and he is forever seeking to find relief by confession. If he finds it not, the conflict terminates in disease of body or of mind.

To seek confession for soul-sickness, is as natural as to seek water to quench physical thirst. This law is as normal as mathe-

matics. It is as relentless as fate, and upon a perfect understanding of it depends the progress and success we may hope to possess in our endeavor to relieve the present burdened condition of humanity. No crime is ever committed, no vice is ever indulged, no sorrow is ever hidden away but what the oppressed mortal hopes to find relief through the confessional.

What course he may pursue to find relief, will depend much upon what has been his previous education and environment. He may seek ecclesiastical counsel, or unbosom himself to his friend, or stoically clasp the poisoned arrow to his breast and suffer and die.

Not to Confess Spells Disaster

But as sure as the conflict remains, he will be oppressed. If he holds it in his conscious thought, he will be afraid, and fear disturbs the internal secretions and produces disease. If he succeeds in partially concealing his vice or crime from his own conscience, he will develop a neurosis or a psychoneurosis and mental instability, with a possibility of complete dethronement of reason.

We have practical evidence of the benefit of the confession in the church. In a mixed community there are fewer suicides among those who attend confession. Recent investigations in Germany indicate that the diminishing birth rate is more noticeable by a large percentage among the Protestants than the Catholics. Minister Dr. Kerschner attributes this to the confession.

There is, possibly, no experienced physician but who has recognized the improvement following the confession of an invalid.

I have seen a girl who had wandered away from the home and church, her body saturated with disease and her soul crushed by fear from her burdened conscience. After hearing her story I have quieted her fears and sent her back to her church. And I have seen that girl rise from her dead self and with glowing face and shining eyes walk the pathway of health and virtue.

I have known a young woman raised in the purity of a country home to be overwhelmed by the tide of sin in a great city and become a

physical and mental wreck. I have heard her confession, with all the depths of her soul revealed, and then I have returned her to her pastor and her church, and watched her year by year as she rebuilt the fortress of her life and character.

It has been my custom for many years, when treating chronic mental or physical ailments, to go back to the emotional centers, to discover the initiative trauma from which sprang the impulse promoting the illness. While pursuing this method I have had the good fortune to observe many remarkable recoveries. I have encouraged the confession before severe surgical operations, with great success.

Hope of the Race in the Confessional

I am convinced that in the confessional lies the greatest hope for improving the race. No form of psychoanalysis can ever take its place.

Man is naturally religious, and will always be so, in spite of any amount of morbid theology. Any man who is not religious is abnormal; quite as much so as one born without limbs or deficient in his mental faculties.

The religious impulse is the most powerful in the human soul, and in it we shall find those dynamic forces to lift man to his highest ideal.

The clergy can do much to aid us in this matter, but I believe a still greater benefit may be experienced through the efforts of the skilful and educated physician who understands psychology and the deep relation of emotion to disease. He may well be considered the more capable in receiving that full confession which gives complete relief to the agonized body and soul.

The dipsomaniac may confess his drunkenness to his religious confessor, but with his physician, under questioning, he goes further and confesses his half-forgotten error, his suppressed complex, of years ago that drove him to the relief of alcohol. As previously stated, I am satisfied that a majority of these periodical drinkers are suffering from submerged conflicts, and alcohol becomes a physical necessity.

The world-wide craving for alcohol is caused by the conflict of conscience. The universal and proper application of the confession will restore mankind to temperance and eliminate the destructive action of alcohol on the nervous system.

I have relieved many from this condition through a deep and thorough confession.

I regard the confession as far beyond any mechanical method or so-called psychoanalysis. While from psychoanalysis, with its detective methods, one may trick the patient into a revelation of some of his misconduct, in the confession we have a complete, willing, and conscious opening of the doors of the inner life. The patient himself breaks down all barriers and pleads for forgiveness.

To the patient in whom I suspect a conflict of conscience, I suggest a complete confession. Sometimes it is given at once, but usually later after reflection. Some I send back to church. Others I dismiss with the assurance of forgiveness when there is deep repentance and an attitude of mind positively prohibiting a return to evil ways.

Says Emerson: "Absolve you to yourself, and you shall have the suffrage of the world."

And there are great souls who do this, but the ordinary mortal requires help while passing through this new birth.

How Some Burdened Souls Were Saved

Twenty years ago, one evening at 11 o'clock, I was sitting alone in my office studying. I heard light footsteps in the hall and then a gentle tap on my door. I opened it and was confronted by a young woman. She was draped in a long black cloak and hood, which accentuated her white face and sunken cheeks. I recognized her as a patient I had been treating for several months.

She was emaciated, anemic, had bronchitis and possibly phthisis. Numerous mental symptoms indicated an approaching psychosis. But beyond these symptoms I recognized the conflict of conscience grinding her body and soul. I had repeatedly appealed to her to tell me everything, assuring her it would give her wonderful relief. And that night she held out her white hand to me and gasped: "Oh, doctor, God help me, I was on my way to the lake to end it all. I saw your light in the window and it seemed to call to me. I have come—I will tell you all—you must save me."

For three hours I listened to her story. It is not necessary to relate it here. Remorse had been followed by a broken spirit and a diseased body. The submerged conflict was brought to the surface with tears and heart-rending sobs. But joy for the first time came to the face when I pointed to the new way, the new life.

She gained fifteen pounds in weight in the next three months. She was a talented woman. Later I heard her speak from the pulpit of one of our churches on a sociological

subject. She is now doing a great work in the Orient, and I saw her name in a magazine lately, the writer speaking of her devotion and heroism. Since the night of her confession there has been no relapse, no retreat from her steadfastness of purpose.

Is not such an example sufficient to point the way for the rescue and cure of thousands of others? I might have treated this woman until doomsday with iron, strychnine, and codliver-oil, but I am sure I never could have cured her without lifting the load from her burdened conscience.

Running back through the centuries, we find an old aphorism which says, "An honest confession is good for the soul." I am thoroughly convinced the truth of this assertion can be maintained by scientific demonstration. I most earnestly recommend to the medical profession the confession as a means to promote health and happiness.

Of course, it all depends upon what attitude of mind the patient maintains toward the confession. A confession wrung from a victim under torture would not be likely to yield beneficial results, either mentally or physically. Neither can we expect great improvements when the same is obtained by any system of cross-questioning or psychological jugglery. The confession, to yield results, must be spontaneous, unhampered, free, and with an attitude of mind seeking forgiveness, with a firm resolution for steadfast conduct in the future.

Under such conditions, and no other, are the vital currents released that give relief and create harmonious development of the entire man. I am satisfied that the confessional will ultimately become one of the most important elements of our educational system in the future.

The Confessions of Childhood

One of the earliest destructive elements that seizes upon the young child is repression, a covering up, concealing or hiding away from its elders, of thoughts, incidents, and complexes which it is either ashamed or afraid to reveal. These lie dormant, to work havoc in the coming years. Consequently, the earliest confessions should be to the mother. Not more than one mother in a thousand is fit to receive the confession, but they must be educated for this office.

In all my experience as a physician, I know of no greater safeguard that can be thrown around the young child than that it should, each evening, reveal to its mother every thought and act of the day that has passed.

This confession to the parent may continue through the years of childhood and youth. Later, the teacher, the guardian, the minister, and the physician will be called upon to perform this sacred office.

Yes, I call this sacred, for the one who fills this office must enter into the silent secret chambers of the soul. It is the sanctuary of the Most High.

To relieve this burden, to banish fear and cure disease, we must employ the confession. And he who acts in the capacity of the confessor must be made fit by cleansing his own soul. He must be healthy, wise, and religious, and must have that deep love of humanity that will go out and beget trust and abiding confidence.

This new education will be the renaissance of real religion, the religion that recognizes all truth as holy, all science as of God.

IV. THE ULTIMATE REMEDY

Religion is the basis of civil society.—BURKE.

There never was a time since the dawn of history when the human brain was as restless as it is today. The world is vibrant with revolution as man is seeking to free himself from his burden.

Somewhere in our civilization there is an error. There can be no doubt but that we may be able to allocate the prime error to the neglect, bad management, abuse, and deficient training of the child. If we would rescue humanity, we must begin here; this is the fountain-head from which rise the currents that give origin to the deficiencies we observe socially, economically, politically, and religiously.

Our present methods of education are deficient, wrong, monstrous—"a sounding brass and a tinkling cymbal." Man is a threefold being, and his education should be directed accordingly.

Physically, the child should be taught the hygiene of his own body and the laws that govern it.

Mentally, it should be instructed in relation to matter and the various departments of science.

Spiritually, it should be brought in harmony with the evidence of a Supreme Being, the immortality of the soul, and the brotherhood of mankind. The child should be taught that all avenues of life lead to the Divine and that all that is is sacred.

The child should not injure its body nor its mind, and, above all, it should not violate its conscience and produce those traumatisms of the soul that scar far deeper than the

wounds of the body. Our educational system evidently does not fully recognize these essentials of education. If our universities really do attempt to develop the moral faculties, they are woefully unsuccessful. Our youths return from college—too many of them—with not only their morals depraved, but the mentality dwarfed and their physical bodies saturated with nicotine, alcohol, and syphilis.

If in the future we are to raise men and arrest the tide of degeneracy, we must improve our methods of education. I am not speaking from the sentimental point of view, but I do regard this subject as of the utmost practical importance.

Religion and Life

I am a scientist; but there are some things we must admit are beyond the ken of dogmatic, mathematical calculation. Emanuel Kant did much good with his "Critique of Pure Reason," and he also did much harm by discouraging investigation through the aid of the imagination and intuition. Kant recognized the phenomena of nature, but he forgot the numena. *We must admit today that religion is essential to the welfare of physical life.*

The time has arrived when science and religion must join hands for the rescue of the race. In other words, science must become religious, and religion must henceforth express itself in scientific terms.

As far back as history extends man has not been able to be happy, nations have not been permitted to exist and races have not progressed without a strong religious belief. In fact, in all instances where the belief in God and the immortality of the soul has departed from a people, it has been an evidence of national decay. This craving for the higher ideal, this searching of man through centuries for his God is not without a meaning, and it will not cease until it fully manifests its purpose.

Fear, by its action upon the internal secretions, is producing disease and premature death. Evolution of the human form and spirit can not progress till we have banished fear.

In the development of true religion we shall find relief. There is no fear like the thought of separation from God. There is no joy like the assurance of oneness with Him.

Let us have the confession in the training of our youth, and by this improved method of education we shall soon begin to see a solution

to all the various questions that now stand in the way of progress.

The wild storm of stress, worry, and fear that now sweeps the nervous system of humanity will be stilled. It will be followed by a noble calm full of an undreamed-of strength and beauty. Then we no longer shall be compelled to employ nicotine and alcohol to increase our complacency or to repress our morbid complexes. Chilling fear will no longer congeal the fountains of joy and health. Degeneracy will disappear. The battle-fields of war will blossom with the flowers of peace and the energies that once were used to destroy will be utilized to create. The aspirations of mankind will be turned toward the study of the Infinite.

Science and religion will walk hand in hand, and when a new discovery or revelation is made, either in matter or in spirit, the bells of the cathedral will be rung and the multitude will sing peons of praise and glory to God in the highest. Man will "look through nature up to nature's God."

We *must* have a renaissance of religious faith. We have had too much of ritual and dogma. What the world needs is a practical universal religion, wherein it shall be demonstrated that real religion is not ceremonial but spiritual; one that we can carry into every expression of life; one that glorifies our lives by casting out fear, stimulating every gland and cell in the body, and sending the rich red blood, freighted with health and happiness, pulsing through our blood-vessels.

What the Universal Religion Will Be Like

Let us have a religion based upon these three cardinal propositions:

1. The existence of a Supreme Being.
2. The immortality of the soul, giving a basic belief and reason for the aim and purpose of life.
3. The brotherhood of mankind, linking all humanity in one bond of mutual aid.

The recognition of a Supreme Being is the basis of a belief held by all the world. It is generic in humanity. The hope of immortality has brought more happiness than all the philosophies preached by man. Without a recognition of the brotherhood of mankind there can be no abatement of selfishness, no relief of the oppressed, and consequently no progress.

The American Medical Association should, by resolution, adopt these three propositions as a platform. It would accomplish more for the restraint of viciousness and the promotion

of health than any effort they have made since their organization.

The nations of the earth should at once hold an international religious congress and determine by mutual agreement what we may incorporate in our educational systems and wisely and safely teach our youth. The extent of this teaching would increase from year to year and ultimately result in a universal religion.

This subject could be promoted by the Universal Races Congress that was organized in London, in 1911. I believe that the adoption of this platform as a basis of belief could be accepted by mankind in general. It would be broad enough for all the world.

Let us recapitulate:

1. Owing to the conflict of conscience, the world is full of fear that is destroying humanity.

2. The immediate relief from this fear-obsession is through confession.

3. The ultimate and permanent destruction of fear must be sought in a deep, sincere, and proper religious training joined with confession.

Two thousand years ago the Preacher by the shore of Galilee taught the existence of a

God, the immortality of the soul, the brotherhood of mankind, exhorting us to be not afraid; and assured us this was the whole law and the prophets. This way leads to health, happiness, life—evolution. Let us follow Him.

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18. Johannes Kubel, "Christliche Welt." (Munich.)
19. *Am. Jour. Phys.*, Dec. 11, 1911.

THAT I MAY KNOW

BY FLORENCE B. TUCKER

Oh, give me now, toil-worn and dust-beladen,
The flowers beautiful, enfolding foot and head,
That soon or late, wet with your tears, you'll bring
me
When I am lying there all still and dead!
Oh, let me know their fragrance and refreshment
Drink in to satisfy my beauty-craving thirst,
Nor wait until my eyes, no longer holden,
The glories of the kingly gardens burst.

Place not within my quiet hands the blossoms
That you have kept to honor death alone!
But take them, bruised and weary, love-compelling,
While they may cling responsive to your own.
Pour out your warm, sweet vials of affection,
When to its depths my anguished heart is stirred;
Oh, speak me in my need your loving message, nor
hold
Until my ears are deaf to mortal word!

Bring not your frankincense and myrrh to burn for
me
When I am gone beyond all blame or praise—
But on the living altar light a flame to cheer
My lonely vigiled nights and care-filled days;
Perchance, you'll kneel beside me, lowly lying,
And whisper tender words of pity for my mistake—
I pray you now, in my despairing hour—dearest—
Your precious box of alabaster break!

The Art of Defecation*

By RALPH ST. J. PERRY, M. D. Farmington, Minnesota

FOR many years past we have bemoaned our deprivation of the so-called lost arts, such as the tempering of copper, the manufacture of Damascus steel and of the tough nonbreakable glass of the ancients. But in all of our lamentations we hear no wailings over that most important of all the lost arts—the art of defecation. Those arts which we are accustomed to consider as lost could more aptly be termed the abandoned arts, for each of them has long since been supplanted by better means. No tempered copper ever had the hardness of our steel; no Damascus sword-blade ever had the spring of our common carpenter's saw; and the nonbreakable glass utensils of the ancients have been displaced by our metal and enameled ware. But no one has as yet succeeded in providing a suitable and efficient substitute for the art of defecation.

Defecation is the culmination of peristalsis, the final act in the nourishing of the body, whereby the unutilized portions of ingested matters are thrown out of the system. The act should occur once daily, though two or three movements per day are more conducive to health. Some individuals naturally defecate only once every other day, and still remain healthy. Any other variations in this function are to be looked upon as unnatural, abnormal or pathologic. The commonest of these abnormal conditions is that of constipation, or the defecation deferred.

Constipation in itself has no characteristic pathology. Its symptomatology, both immediate and remote, is too well known to call for any description. Of its etiology, I think I can safely say that fully ninety percent of the cases are due solely to habit; in the other ten percent, we find dryness of stool and errors of diet the chief factors. In some instances there may be a stenosis of the bowel or some painful, inflammatory or obstructive condition in the rectum or anus.

Perfection in the art of defecation depends upon four conditions, namely, a mass of feces, a desire to defecate, muscular activity, and an unobstructed bowel lumen; and the proper treatment of those who have lost the art requires, first of all, a recognition of the defective or missing condition, and then its restoration.

The once popular method of treatment followed in all cases of constipation, by administering cathartics or laxatives, is no longer considered a proper one. Such remedies will do for sporadic constipations, for emergency work or to initiate a course of treatment where it is desirable to make a quick psychic impression; but the long-continued use of such drugs is to be deprecated—Ayers, Jaynes, DeWitt, Castoria, Cascarets, *et al.* to the contrary notwithstanding.

The genus homo is probably the only group of animals that has lost the art of defecation, and so generally has this become recognized in scientific circles that "the female of the species" has been defined as a "constipated biped."

Now to the defective or missing conditions productive of constipation.

The Intestinal Content Must Be Proper as to Mass and Quality

The mass of feces is something which depends upon the ingested matters, and it may be gaseous, liquid, solid or a mixture of these consistencies. If the fecal mass is sufficient to distend the intestines moderately, this distention excites and promotes peristalsis and the mass is moved slowly but steadily toward the rectum. Should the mass be of an irritating nature or the intestine unusually sensitive, we find the movement much accelerated and a diarrhea possibly is created. Should the mass be nondistending, nonstimulating, but rather sedative or astringent, in its nature, we are apt to have a constipation develop.

Errors in diet cause most bowel troubles, and the greatest of these errors is the eating of too concentrated foods. In looking over the advertisements of twenty food products, in a February (1913) magazine, it was noted that the claims to superiority of seventeen of them were based upon the concentration of nutriment and the absence of the so-called "waste matter." In fact, the tendency today seems to be to throw all this "waste" into stock foods and to feed humanity upon concentrated, ninety-nine percent pure anti-peristaltic pabulum. Food manufacturers, as well as some of our cooks, apparently lose sight, or are ignorant, of the fact that this "waste" matter which *they* waste is the very essential part of the food that goes to make up

*Read in part before the Park Region Medical Society at Alexandria, Minnesota, Jan. 8, 1913.

the bulk of the stool, to promote peristalsis and make defecation a possibility.

Possibly it could be truthfully said that nearly every case of up to date constipation has involved in its etiology this error of diet. To correct it, correct the diet. Fruits—fresh, canned or dried—contain acid elements which upon coming in contact with the alkaline secretions of the intestines cause gases to be evolved, thereby distending the bowel and exciting peristalsis. The ingestion of the coarser foods which have not been bolted or put through other similar processes—such as the whole-wheat, oat, and barley products, and meats, vegetables, milk, butter, and eggs—will materially aid in increasing the bulk of the feces.

A "food" which I have used successfully in many cases during the past several years is crude agar-agar, the sea-weed gelatin of the East Indies; a heaping tablespoonful of the granulated product being taken morning and evening with a little sugar and cream, like oat-meal or cracked wheat. In the alimentary canal the agar-agar absorbs moisture and swells the bulk of the stool. It does not dissolve nor does it seem to be digested and absorbed like calves'-foot gelatin (the ordinary kind), but passes through the canal, acting as a peristaltic stimulant, a lubricant, and a vehicle for the liquid contents—which too often are absorbed, bringing on a condition of autointoxication.

Spirach, beets, greens, sweet-corn, hulled corn or hominy, dandelions, cabbage, and beans are bulk-forming vegetables that can be had at all seasons of the year, either fresh, canned or dehydrated. Olive oil, cottonseed oil, and peanut oil, all in purified edible form, are not only good foods but excellent lubricants to the intestinal tract. They can be taken "straight" or mixed with other foods in the form of salads and dressings. Potatoes, rutabagas, turnips, parsnips, carrots, and other root foods also help to form bulky stools.

Importance of Rectal Sensibility. The "Magazine" Treatment

The desire to defecate, which is an essential factor in the art, in most constipated persons has been extinguished or diminished through the habit of postponing the act of evacuation at those times when nature suggested such an act as being desirable and propitious. Constant repetition of this postponement results in a dulling of the sensibilities and a muscular inertia. Many persons thus affected I have cured by what I call the magazine-treatment.

This method involves a water-closet that is comfortable at all seasons of the year, and, in addition, a magazine or other reading-matter that is interesting. By a comfortable water-closet, I mean one that is dry, clean, odorless, well ventilated, cool in summer, warm in winter, and which has a seat of proper height and size and shape to fit the gluteal portions of the active party. With such facilities at hand, my patient is instructed to assume the proper defecatory attitude, open the magazine, and read and read and read, and patiently await the moment when nature takes its course; it may be ten minutes or it may be an hour. The first few seances may be unsuccessful, but sooner or later the peristaltic Billikins will get busy, the constipation hoo-doo will vanish, and the soul will be filled with that joy which comes from a good deed well done. This magazine-treatment is a waiting game and calls for persistency, but I have never known it to fail to bring its reward in the end.

Just a word concerning the facilities and the attitude. The time has passed when a fence corner is a suitable *locum defacatorium*. Such aerated and zephyrous spots were all right in the days of 4004 B. C., when Adam and Eve were functioning; but matters have changed since then, esthetically, legally, and board-of-healthly.

Today the water-closet should be weather-proof, erected in a place protected from storms and public eyes, connected with a septic-tank system, and provided with the necessary requisites for the after-toilet. Most urban homes are connected with city water-works and the water-closet is indoors and connected with a sewer, but in the country the denizens of the farm and village must rely upon less convenient ways.

Many of the rural population are afraid of a septic tank simply because they do not know how easily and cheaply one can be built. The Department of Agriculture has published a Farmers' Bulletin which fully explains and illustrates several practical forms of the septic tank.¹ Send for it, addressing the Secretary of Agriculture, Washington, D. C.

In the days of Eden, when the members of the first families of the garden retired to the depths of the corn-field, they assumed a squatting attitude, thereby bringing to their aid the pressure of the thighs against the abdomen. This position in defecation I believe to be the natural one, and the present-day construction of water-closet seats is faulty in that it prevents this attitude. Some

¹See also back volumes of CLINICAL MEDICINE.—ED.

plumbing genius has put upon the market a closet with the seat at an angle that enables one to assume the pristine position without bending the torso to a horizontal. Consult your plumber for further details.

The Abdominal Musculature Must Be Unimpaired

Muscular activity is wanting in many persons troubled with constipation, especially in women who have borne children or who have abused the corset-wearing habit. To restore the muscular tonus, we have recourse to massage, gymnastic exercises and electricity. All such measures should be carried out by and under the direction of a physician, and in such dosage as is suitable to the patient's general health, strength, and physical condition. By way of more specific elucidation, let me elucidate specifically.

Spinal massage: Have the patient—bare-backed or with a thin cloth waist only—seated on a low stool, with back toward you. With the ulnar edge of the hands rapidly percuss the roots of the spinal nerves, going up and down the sides of the spine, one hand on either side and devoting most of the efforts to the sacral, lumbar, and lower dorsal regions. Two minutes.

Breech beating: With the patient standing, place the left hand on the patient's abdomen as a support and with the loosely clenched right hand gently beat the lumbar muscles from the ribs to the sacrum and from the gluteal muscles to the thighs. Do this slowly, firmly and with deep pressure. Two minutes.

Vibration may be applied to the involved muscles by the hand or by mechanical appliance. Hand vibration is accomplished, not by rapidly beating the part, but by laying the open hand on the extended fingers over the spot and then rapidly shaking or vibrating the hand *in situ*. I believe this form of vibration often to be more effective than mechanical work. Two or three minutes is sufficient.

Body torsion: The patient sits on a stool and twists the body slowly from one side to the other. This is done two or three minutes without restraint, and then for one or two minutes in opposition to the resistance of the physician or nurse, who grasps the patient's shoulders and "pulls against" the torsion.

Body bending: The patient stands with heels together, toes out, hands on hips; bend body at the hips forward, backward, and to each side. Two minutes.

This series of movements, followed out as here given, will cover a ten- to fifteen-minutes' treatment, which, if repeated daily, will be all that the average patient can stand or will require, and, if faithfully carried out, will do much good and materially aid in effecting a cure.

Intestinal Obstruction as a Cause of Constipation

An unobstructed passage is found in nearly all cases of constipation, although occasionally there may be a stenosis of the bowel or a tumorous growth. The commonest obstructions is an impaction of feces, the result of the constipation rather than a cause. These impactions can be softened by injections of soap-suds, olive-oil, cottonseed-oil or crude petroleum (or black oil),² then broken up and moved by massage of the colon and faradic stimulation of the muscles.

In giving injections of oil, let the patient take a pint or two of the oil while he is in the dorsal recumbent or left lateral position, then follow immediately with a quart of warm water, with the patient gradually rising to the sitting posture. By so doing, the oil is floated on top of the water up into the colon, where, by body movements and gentle abdominal rubbings, it can be made to reach all of the remote fecal masses.

Massage for breaking up and moving impactions should begin with a spinal percussion as detailed above; then, with the patient on the back, start in the lower left groin with a gentle rolling, kneading movement and follow the colon up to the ileocecal valve. Repeat this several times, each time a little harder than before. A séance should not extend longer than five minutes.

Hemorrhoids, fistula, fissure or any other pathologic factor which renders defecation painful, and so conduces to bring on a constipation or aggravate an already existing one, should be overcome.

[Dr. Perry's suggestions are fine, and should help greatly in the management of intractable constipation. However, massage may come and bran may go, but pills go on for ever. Medicinal treatment, while sadly abused, is still indispensable. Let it be intelligent, carefully fitted to the patient's needs and associated with the excellent expedients herewith suggested.—Ed.]

²Also by ordinary coal-oil, or kerosene.—Ed

Some Fallacies in Regard to Contagious Diseases

By JAMES E. STUBBS, M. D., Chicago, Illinois

EDITORIAL NOTE.—Doctor Stubbs is a good deal of an iconoclast, but his iconoclasm is so strongly saturated with common sense that it is hard to escape from his conclusions. The problem that he raises is this: Is our present method of combating the spread of the contagious diseases founded on sound scientific reasoning, or is it the survival of an old superstition? What do our readers think? We want their opinions.

"That which cometh out of the mouth, *this* defileth a man."

Dead things make no disease.

That which is dead giveth no life.

MAN is prone to superstition, just as sparks are to fly upward. Dangers we can not see we fear. All men are cowards in the dark, and we are in the dark in regard to the contagia of diseases. Hence, the absurdity of our laws as to quarantine. These laws work hardships on the poor, when strictly enforced, and are futile as to preventing the spread of disease. The deeper we are in ignorance and superstition, the more irrational we are in trying to avoid dreaded diseases.

The believers in Christian science are more sane as to the spread and contagiousness of disease. Disease with them is only an error; with the mass of mankind it is an absolute fact easily realizable. Laymen all believe in the carrying of contagium in clothing, paper, letters, books, and the like, and it is hard to disabuse their minds of the fallacy; for a fallacy it is. The medical men who ought to know better are as bad as the masses, if not worse. It is hard for them to give up an old dogma.

It was once thought, and believed, that the earth was a great level plain surrounded by water; that on its surface were mountains, rivers, lakes, animals, and the whole resting on the shoulders of an old mythological individual by the name of Atlas, his feet on the back of a turtle and the turtle floating in space. What a burden the old man had to bear! It took thousands of years to get this fallacy out of the minds of the people.

Superstition Dispelled by Science

Many things have been taught as truth, and we accepted them as truths, when scientific investigation disclosed the fallacy of the belief. Facts of today become fictions tomorrow. It once was taught that malarial fever came from breathing bad, foul air; that it was carried in the mists and fogs arising from swamps, marshes, and stagnant

water. Now we know that the anopheles mosquito is the spreader of this disease.

Once we believed that the virus of bubonic plague was carried in clothing, in fomites, the air, and so on. Now, however, research and the microscope have opened our eyes and we see that the rodents—rats and the ground-squirrels—are the reservoirs from which the flea draws the germ of the disease; and, as fleas have a strong liking for the blood of man, he takes his first opportunity of vaccinating every individual of the genus homo to whose body he gains access.

Once we believed that yellow-fever was spread over certain portions of the world by the wind; and this carried the germs, which got into clothing, into letters, books, the holds of ships, the fur of animals, the feathers of the birds—all this was the result of evil spirits. We know better now.

More than sixty years ago Dr. J. C. Nutt, a well-known physician in the South, believed and stated that his observations led him to believe that the mosquito was the conveyor and purveyor of the virus of yellow-fever. During an epidemic of the fever he was in New Orleans and made a "post" examination, and then and there declared to Prof. Chaillé, in this terse statement, "Chaillé, I'm damned if I don't believe it's bugs."

The Mosquito and Yellow-Fever

It has been demonstrated as a fact that the mosquito, who prowls about by night only, just like his prototype, the holdup-man, the assassin, the burglar, is the agent of the evil spirit and his occupation is, to inject the virus of yellow-fever into the blood of every man, woman or child that unwittingly gets into his habitat, and at once—does not wait for an invitation—proceeds to vaccinate his victim. Again, it is that which proceedeth out of the mouth that defileth man.

Gunshot quarantine one time was established from the Mississippi River, starting a short distance above Memphis, eastward to the mountains, and wo betide the man, woman or child caught crossing the dead line,

for he was sure of getting his body filled with cold lead. But when the medical man of intelligence, observation, and research got right down to hard work, he located the culprit, and with a few barrels of petroleum he soon put a quietus on Mr. Stegomyia.

What fear spread through the land when a case of "Yellow Jack" was reported at New Orleans, Key West, Cuba or Mexico! All our southern seaports were quarantined and no vessels or railroad trains were allowed to enter or depart. Those days have passed. We know more now. Knowledge casteth out superstition. Man is superstitious through ignorance.

How the Infection was Traced to the Mosquito

Out of the mouth proceedeth that which defileth man. The fact has been thoroughly established that the stegomyia mosquito is the vaccinator of yellow-fever. This was proven at the cost of the sacrifice of human life; but at the same time it was demonstrated that man is the reservoir containing the virus of the disease. Under the direction and supervision of Carlos Finlay, Jesse Lazear, James Carroll, and Walter Reed, all except the first of the United States Army Medical Service, a series of tests were made. The following was one of the tests:

John Kissinger and John J. Moran, both privates of the U. S. Army, went into a room that had been fumigated and from which all mosquitoes had been driven out. Then they let loose a number of stegomyia mosquitoes, and these soon began their deadly work. The two soldiers had on only night-shirts, so that the vaccinators had a perfect field for operation. Both of the men were bitten from twelve to fifteen times. In due time, both were attacked by yellow-fever, although, happily, both recovered. No reward was offered them, nor did they receive any. Considering that at that time yellow-fever was considered the most contagious and infectious and most fatal disease known, they gave an example of moral courage greater than ever was known. We are proud that our country has such men.

Robert P. Cooke, U. S. A., and six privates were housed in a room 14x20 feet for twenty nights, and their bedding was the linen and underclothes, shirts, and bed-linen taken from the dead bodies and bedding of persons who had died of yellow-fever in the hospitals. These fomites were smeared with the secretions of the sick and dying men; and the odor from those fomites, it is written, was abominable. These seven men unpacked

those dirty, disease-laden clothing and bedding, shook them out, and made beds to sleep in. All mosquitoes were driven from the room before the men entered, so that there was no opportunity for them to become infected from that source. For twenty nights and days they lived and slept in this compartment, but, like the three Hebrew children in the fiery furnace, they came out in perfect health without the smell of the disease left on them; and they remained in perfect health afterward. Did the world ever see such heroism? They risked their lives for humanity.

How This Nation Shows Its Gratitude

The test was made also on Drs. Lazear and Carroll. Doctor Lazear died as a consequence, vaccinated by the stegomyia mosquito. At a later date 8 persons took the test: 3 died; one of them, Miss Clara B. Maas, a nurse. Herves are not always men.

Without these experiments, these sacrifices, the Panama Canal never could have been built. After that, it became a possibility. Will the world and commerce be benefited by it? Who doubts? Out of the mouths of the stegomyias thousands of lives were annually gathered to the city of the silent majority. Again it was proven that fomites do not carry contagium.

I will digress a little, to see how a democratic government treats its civil heroes. For the benefit of Doctor Lazear's widow, Congress at first appropriated the sum of \$17.00 per month, with \$2.00 additional for each child up to the age of sixteen. What munificence! In May, 1908, Congress had remorse of conscience and raised the amount up to the princely sum of \$125.00 per month, including children and all. What prodigality! Why, it is not uncommon for our Billion-Dollar Congress to appropriate \$100,000 to clean out some duck-creek, so that a fleet of scows might navigate said creek—and for what?

Doctor Reed died in November, 1902, and four months after (note the haste) Congress granted to his widow the kingly sum of \$125.00 per month. What a burden on the United States! Doctor Carroll died in September, 1907. In six months, this liberal Congress bestowed upon his widow a pension of \$125.00 per month. What a benevolent government!

Kissinger's health failed to such an extent that he had to be supported by his wife. Shame on such a Congress, to allow such a thing to happen. Necessity compelled friends

to make application to Congress for help. Now note—our liberal, generous Government granted him \$12.00 per month to support *two*. How kind! How liberal! How sacrificing! Shame! In three years he became a hopeless paralytic. Just see how quickly a democratic government hastens to relieve the distress of one of its heroes. They first granted to this helpless man and his faithful wife—how much? \$125.00 per month. Some of the multimillionaire congressmen thought that was too much, likely to bankrupt the Government, so, had it reduced to \$100.00 per month.

Mr. Moran tried to get a medical education, funds failed, and he had to give it up. As a compensation for his heroism, the Government gave him a *job* on the Panama Canal. How thoughtful, how considerate, to one who helped to make the canal a possibility!

Scott and his companions went to the South Pole. None ever returned. They saved no lives, did nothing to benefit mankind; but just for their pluck England did not forget their dependents. She supplied them with a great abundance that will make them independent for life. Britain gives pounds, United States gives dimes. What a good and glorious thing it is to be a citizen in a democratic government! Here it is every man for himself and the Lord for us all, and these heroes made the *great* work of modern times a possibility and demonstrated that yellow-fever is not conveyed in fomites.

Out of the mouth proceedeth that which defileth the man!

The Role of Microbes and Vermin

The belief in signs and symbols frequently controlled the destiny of nations. The more wicked and fallen, the greater the belief in occult manifestations. An old prophet, observing the tendency of his people, said: "Oh ye wicked and adulterous generation seeking after signs," and we today have not gotten out of the habit. Since time began there has been no new creation. Bacteria have existed from the beginning. Every organized thing has its natural habitat, and there it lives in the full enjoyment of its nature.

Nature keeps the balance in the animal kingdom. One genus becoming extinct, man has to make up the loss by destroying that which that genus had been destroying. One species can not become extinct without the unbalancing of nature in its natural condition. Only when civilized man reigns can this be done. If all microbes were to be

wiped out of existence, in a very few years the earth could not sustain the vast population. Destroy the balance of the microbe world, and havoc would soon reign in the animal kingdom.

There are natural reservoirs for all kinds of bacteria, inhabiting the body, and here they do not do any material damage to their hosts, but when conveyed to a different, or unimmune body, or to one in whom the opsonic index is below par, then disease and death result.

Fomites Are Not Disease-Carriers

We would not believe one-tenth of the tales we hear in regard to diseases if it were not for the prevailing ignorance and superstition. Superstition is related to this life. We must unlearn what we have been taught in regard to the virus of diseases being carried in fomites. The question which concerns us all is, "How are these diseases transmitted?"

Doctor Hedges has contributed a short article to *Progressive Medicine*, on contact-infection, with special reference to scarlatina and diphtheria, in which he says: "From earliest times, it has been believed that these diseases are transmitted through the air and by fomites or objects which have come in contact with the patient. There is no doubt there is a growing opinion, based on careful scientific observation, that the dangers of transmission through the air are very slight." Personally we believe that it never is conveyed through the air or by fomites, any more than yellow-fever and malarial fever are thus disseminated.

"The transmission is most invariably accomplished by distinct contact with the individual who has the disease or who hath it and knoweth it not." Perhaps the greatest sources of infection are the so-called "missed cases," in which the diagnosis has not been made, and in the *carrier cases*. "In diphtheria and scarlatina, there has been the belief that the virus of both diseases could and did live after very long periods of time, and that under certain (favorable) conditions diphtheria bacilli may retain their virulence for months; but, under ordinary conditions they soon lose their viability." So says Doctor Hedges.

This has been thoroughly tested, by such men as Weichardt, Chapin, Williams, Kaher, and others, as to the shortness of the vitality of the bacteria of these diseases.

"Paper money would be a very great source of danger if the virus were carried in fomites; yet, careful study of bank-clerks, streetcar-

conductors, and cashiers shows that these individuals do not have scarlatina and diphtheria more frequently than do other classes of people, nor has there been any evidence to show that the employees of the U. S. Treasury Department who handle returned bills are more subject to infectious diseases than are other people under similar conditions. Scarlet-fever and diphtheria certainly do not fly through the air, so that there is practically no danger through this source." (*Progressive Medicine.*)

"Scarlet-fever and diphtheria can be treated in open wards in any hospital, without any danger of contaminating other patients, if ordinary care is taken by the physician and nurses. As to the room, thorough cleaning, by ordinary means, is probably all that is needed; although, of course, disinfection by formaldehyde or sulphur may help. It will allay a certain amount of nervousness in others, as they have been wrongly taught in the past." (*Progressive Medicine.*)

We might learn something from the Christian scientists in this respect. "As ordinarily carried out, some inspection is more or less a farce, and everyone who knows about it at all and has observed the manner in which it is done will agree with me; but it makes the inmates feel more comfortable." Ignorance

is bliss, why be wise? The ostrich feels more secure with its head in the sand when in the presence of the enemy.

"For the last two years I have given up using disinfectants for the hands and substituted thorough scrubbing with soap and hot water—all unnecessary, except for cleanliness. I am certain that, in spite of almost daily contact with infectious diseases, I have not been the means of transmitting them in a single instance. I also think that medical students and physicians should be taught exactly how to prevent the spread of diseases and to stop the use of measures which are apt to be misleading and give a false security." (*Progressive Medicine.*) I have thus taught and practiced for the last twenty years, and I can truly say that I never have known of any contagious diseases following in my wake, I being the conveyer of the contagium.

My observations make me conclude that physicians, as a whole, are the most set in their beliefs of any class of people, except it be the clergy. As for most of the physicians, when once they are taught and have accepted a dogma, all heaven and earth can not get them out of the rut. A physician who never changes his beliefs is a mossback; and a mossback is worse than a grayback.

(*Concluded next month.*)

COLUMBUS

By JOAQUIN MILLER

Behind him lay the gray Azores.
Behind the gates of Hercules;
Before him not the ghost of shores,
Before him only shoreless seas.
The good mate said, "Now must we pray,
For lo, the very stars are gone;
Brave Admiral, speak, what shall I say?"
He said, "Sail on and on and on, sail on."

They sailed and sailed as winds might blow
Until at last the blanched mate said,
"Why now not even God would know
If you and all your men fell dead;
These very winds forget their way,
For God from these dread seas is gone;
Brave Admiral, speak, what shall I say?"
He said, "Sail on and on and on, sail on."

They sailed and sailed, then spake the mate:
"This mad sea shows his teeth tonight,
He curls his lips, he lies in wait
With lifted fang as if to bite;
Brave Admiral, say but one good word,
What shall I say when hope is gone?"
The answer leaped like a leaping sword;
He said, "Sail on and on and on, sail on."

Then pale and worn he kept his deck
And peered through darkness. Ah, that night
Of all dark nights, and then a speck;
A light! A light! A light! A light!
It grew, a star-lit flag unfurled;
It came to be time's burst of dawn.
He gained a world, and gave that world
Its grandest lesson; On and on and on, sail on.

What Others are Doing

CHRONIC PNEUMONIA CURED WITH THIOSINAMIN

Two injections of thiosinamin (fibrolysin) completely cured in one week a patient of an obstinate chronic interstitial pneumonia ("chronische lungenentzündung"), according to Brenner; who thus writes in the *Muenchener Medizinische Wochenschrift*, 1913, page 1547.

STEROLIN: A HAND DISINFECTANT TO REPLACE RUBBER GLOVES

In the *Chemiker-Zeitung* (1913, p. 1247) there is described a liquid for disinfecting the surgeon's hands, so that rubber gloves may be dispensed with; the formula given being: acetic acid, Gm. 2; castor oil, Gm. 2; Peru balsam, Gm. 3; strongest alcohol, Gm. 93.

The surgeon thoroughly wipes his hands and wrists with wads of absorbent cotton wet with the liquid, continuing about two minutes, and taking a fresh bit of cotton every time he wishes to take up more of the liquid. After permitting the alcohol entirely to evaporate, he goes through the same performance. As soon as the hands have become completely dry the second time, operation may begin. In the case of inflamed tissues, a single such treatment is called sufficient.

The claim is made that this sterolin not alone washes away the superficial germs, but penetrates into the skin pores and there glues them fast temporarily. This is the magic "varnish" or "liquid gloves" astute newspaper reporters have been growing enthusiastic about lately.

TREATMENT OF PNEUMONIA

There are several interesting articles upon the treatment of pneumonia in the December, 1913, number of *The Medical World*. We are particularly interested in the experience of Dr. Solomon Solis-Cohen, who uses massive doses of quinine every three hours, administering with it 15-minim doses of pituitrin (solution) when the quinine reduces the blood pressure too much. Doctor Cohen points out

that the greatest danger lies at the point where falling blood pressure and increasing pulse rapidly meet. He has had good results from bacterins in the treatment of pneumonia and continues to use them.

A number of contributors to the same number of *The World* recommend the use of creosote carbonate or of guaiacol carbonate, the latter being used in 5- to 7 1-2-grain doses repeated every four hours.

R. J. Smith advises the use of the circulatory sedatives aconitine, veratrine, and gelseminine, which he associates with digitalin and strychnine in small doses when the latter are indicated. For bronchopneumonia, he praises apomorphine and emetine. Apomorphine, he says, will save more of these pneumonia patients than any other remedy. It liquefies the secretions of the bronchioles and renders expectoration more easy. Strychnine or brucine should be given in association with it, to support the nerve-centers. When the sputum is tenacious and the cough dry and harsh, he gives ammonium chloride and emetine. When there is beginning cyanosis, as shown by dark finger-nails, 1-drop doses of tincture of phosphorus are employed; for respiratory failure, atropine sulphate; for extreme restlessness and delirium, hyoscine-morphine-cactoid, and to support the heart, digitalin, sparteine sulphate, and cactoid.

SALICYLATE DIAPHORESIS IN PUERPERAL ECLAMPSIA

Dr. Volland relates, in the *Therapeutische Monatshefte* for May, 1912, an interesting experience which lies many years back and for which he found the explanation only recently. A primipara toward the end of her pregnancy was taken with severe convulsions. On the theory prevailing at that time that eclampsia might depend upon uremia, the author believed that he might remove the excess of urea by energetic diaphoresis. He administered 75 grains of sodium salicylate per rectum, which produced profuse perspiration, and this actually caused the convulsions to subside. Gradually labor-pains set in and the pregnancy was terminated. There fol-

lowed four days of salicylic intoxication, as evidenced by maniacal excitement.

Since it has been shown quite recently that in all cases of severe puerperal eclampsia in which the operation of trephining was done a strong intracranial pressure had existed, produced by a severe cerebral edema, Dr. Volland believes that in his case the marked perspiration which he induced by the large dose of sodium salicylate relieved the edema of the brain and, with it, the intracranial pressure, thereby relieving or removing the eclampsia. He advises employment of sodium salicylate in cases of eclampsia, instead of administering narcotics, or at least before deciding upon premature delivery.

TICK-BORNE DISEASE RESEMBLING TYPHUS

John L. Tood says, in *The Canadian Medical Association Journal* for August, 1912, that a tick-borne disease sometimes occurs among persons living in some parts of Montana. The disease is a very fatal one and its symptoms resemble those of typhus. The same tick also is found in some parts of British Columbia, and Dr. Tood heard from several physicians who gave a history in all of the cases which was practically identical: paralysis or paresis, which came on suddenly, being seen in the affected child. A tick would be found attached to some part of the body, but in most instances near the nape of the neck. In some cases the symptoms ended in death; in others, after the tick was removed and with good nursing, complete recovery followed in a few days.

CHRONIC ULCER OF THE LEG

As illustrating the difficulty of curing cases of chronic ulcer of the leg, A. Winkelreid Williams (*Brit. Med. Jour.*, Oct. 18, 1913, p. 1013) gives a long list of different methods of treatment collated from the literature upon this subject. Following is a description of his own method, which he has found generally successful.

Whether these cases are of syphilitic origin or not, he finds that at least 90 percent are decidedly benefited by the use of mercury and the iodides, which he gives together. He finds small doses of magnesium sulphate, several times daily, of marked value in cases where constipation and ulcer coincide. To relieve the pain, he applies anesthesia in solution (20 grains in 1 ounce of alcohol), painting it on the ulcer and allowing it to dry. A sin-

gle application gives relief from pain for forty-eight hours or longer.

The most generally useful application for every description of chronic leg-ulcer is an iodide of starch paste, the formula for which is as follows:

Starch.....	10 1-2 parts
Glycerin.....	20 parts
Water.....	60 parts
Boil, and when nearly cold add	
Liquor of iodine, B. P.....	5 parts

This paste is spread very thickly over the ulcer and made to overlap, and then the bandage is applied. If there is much discharge, this dressing should be renewed twice daily; later, once daily, or even less frequently. Nearly all cases do well under this treatment, but it is not always adapted, as in patients who have an idiosyncrasy against iodine, when the ulcer is intensely inflamed, in cases of neurotic women with irritable ulcers or when there is a very profuse discharge.

REMOVAL OF SCARS

The following original method of dealing with scars by multiple incision and the use of thiosinamin is recommended by A. H. Tubby in *The British Medical Journal* (Nov. 1, 1913, p. 1138). This method is employed for scar-tissue on the hands, neck, fingers, and elsewhere where muscular contractions may cause more or less distortion.

With a fine tenotomy-knife, multiple incisions not more than 1-10 inch apart are made in the scar-tissue. However, care is taken that the cuts penetrate, not only into the subcutaneous fat, but that they extend into the surrounding healthy skin. No attempt is made to arrest the hemorrhage except by pressure. When bleeding has ceased, a solution of thiosinamin is rubbed in vigorously, and if the scar-tissue is very thick a few drops are injected into the most prominent bands. Tubby injects as high as 15 minims at a time in the case of children and 20 minims in adults.

After the operation, the part is put in a splint, as much extended as possible, and healing is allowed to go on. There is no excessive reaction and very little pain. After ten to fourteen days, the wound will be healed, while the mobility of the part is increased by at least fifty percent. If necessary, the procedure may be repeated two or even three times if thought desirable. The result is most satisfactory, scars which have been tough, resistant and wire-like having become

soft and supple and the part restored to a condition of usefulness.

In *The British Medical Journal* for November 8 (p. 1203), Tubby describes his method of treating Dupuytren's contraction with fibrolysin. Before applying the remedy in these cases, skin flaps over the area involved are dissected out and turned back, then the affected fascia are dissected away. Hemorrhage is controlled by applications of hot water, after which the fibrolysin is poured into the wound and rubbed in for two minutes, and, where fibrosis is extensive, 5 or 6 drops of the solution are injected into the margin of the cicatricial area.

HOW MALARIA CAN BE ERADICATED FROM THE UNITED STATES

That it not only is possible but even comparatively easy to eradicate malaria from our southern states, provided we can get reasonable cooperation from our people, is the contention of C. C. Bass, who writes upon this subject in the October, 1913, number of *The Interstate Medical Journal* (p. 921). The possibility of doing this rests upon the fact that the plasmodium malariae, will not develop within the mosquito when the latter is exposed for any considerable time to a temperature below 65°F. If such temperature conditions prevail, the plasmodia fail to reproduce and those that have developed die. The length of time during which mosquitoes may serve as hosts for malarial plasmodia does not exceed four to six months, except in the extreme southern part of the United States. During the other six to eight months the parasites are kept alive in human hosts, who serve as malaria carriers.

If, then, we can destroy the plasmodia that persist in the human patient during the winter months, we can prevent the mosquito from becoming infected and thus transmitting the disease during the summer months. Quinine, properly given, kills the malarial plasmodia in the blood of humans. In a sentence, all that is required for the complete eradication of malaria is, for everybody who has suffered from malaria during the warm season to take the proper amount of quinine on each of two successive days and in each of six consecutive weeks during the cool season following.

This constitutes a surprisingly simple method and one which undoubtedly would prove effective. Its complete success, however, will depend upon the cooperation possible to be secured from the people. If any

considerable number of infected human hosts remain, they would transmit the disease to mosquitoes, and these in turn would soon re-infect the population.

The remedy, therefore, lies in education, and Doctor Bass is of the opinion that a very large percentage of the people could be reached through the public schools. He asks that systematic instruction be given children upon malaria and its prevention, beginning with the fourth or fifth grade. Older people can be reached through the press of the county, while a great deal can also be accomplished if we can secure the cooperation of large employers of labor, corporations, such as railroad companies, plantation managers, manufacturers, and so on.

Of course, a few infected persons still would not be reached; yet, if the remainder were taught hygienic living, the importance of avoidance of mosquito bites, and the fact that screens on houses will keep mosquitoes from people at night, when they alone can do harm, it would not be long before the disease would virtually be extinct.

BOLDINE IN HEPATIC TROUBLES

In *La Dosimetrie* for August, 1913 (p. 120), Monin declares that boldine is a powerful modifier of pathologic states of the liver, rendering more permeable the routes of excretion and secretion, and in general acting as a stimulant to, and aid in, decongestion of the biliary apparatus, being equally valuable as a tonic in atony and flatulence and a reliable anticephalalgic and sedative. Boldine wakes the activity of the hepatic tissues in their entirety, increases elimination of urea and of uric acid, and liquefies the bile; and, further, while diminishing the percentage of solid materials, it facilitates the breaking down and expulsion of hepatic calculi, the formation of which it retards.

According to Fideli, boldine also prevents ascending infections through the bile-ducts and blood-vessels, thus preventing disease of the bile-passages. It is also an efficient remedy in mucomembranous colitis where the false membrane occurs because of insufficient biliary function.

Finally, its calmative and anesthetic power relieves the spasm of the biliary passages, while correcting the torpidity of the hepatic cells—a double action possessed by no other antispasmodic in our therapeutic arsenal.

Monin also speaks of the unquestioned value of the biliary salts as stimulants of the hepatic function. These increase intestinal

peristalsis, dissolve excess of mucus, render aseptic the visceral contents, and favor the emulsification and absorption of fat. These purified bile-salts may properly be associated with boldine.

THE MICROCOCCUS DEFORMANS: DOES IT CAUSE RHEUMATOID ARTHRITIS?

Some months ago we published in these columns an abstract of an article by H. Warren Crowe, who announced the discovery of an organism which he called the staphyloid coccus A, and which he believed an etiologic factor in rheumatoid arthritis. In *The Lancet* of November 22, 1913 (p. 1460) he gives a detailed study of this organism which he has now rechristened the micrococcus deformans.

This new organism, Doctor Crowe tells us, belongs to the micrococcus epidermidis group. Careful agglutination tests and opsonic data are given by him, and considerable clinical experience is reported in support of its causative connection with arthritis deformans. Thus, for instance, it has been found in the blood of a patient who developed acute arthritis, in the urine of two women suffering from rheumatoid arthritis, in the nasal discharge of another such patient, as well as in the intestinal canal, also from other portions of the body of patients suffering from this disease.

In 26 cases of typical rheumatoid arthritis, the organism was found present in all. It was cultured in 22, and positive complement-fixation was demonstrated in the remaining 4 cases. Further in 14 less severe and doubtful cases of the disease, the organism occurred in 11, being cultured from 9. If neuritis is included—and Doctor Crowe believes this should be done—the total number of cases is 48 and the incidence 45; that is to say, the organism was found in nearly 94 percent of all the persons affected.

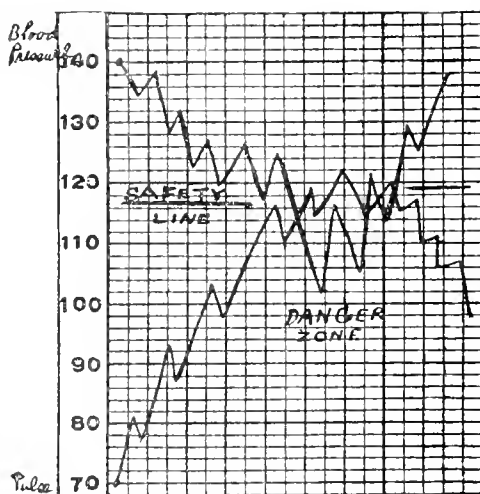
Doctor Crowe does not claim that this coccus is the only organism concerned in the etiology of this disease. Streptococci, colon bacilli, and other organisms have been found in the local foci of infection; indeed, he has encountered them himself and is convinced of their pathogenicity. His claim is, that these other microbes constitute a mixed secondary infection, the primary cause, though, being the micrococcus deformans.

The practical value of Doctor Crowe's observation depends upon the possibility of producing from this organism specific bacterins that will prove curative, alone or com-

bined with bacterins made from streptococci, bacillus coli, and other germs. Such a bacterin he has already prepared, and employed it with considerable success in some instances.

WHAT IS THE GIBSON RATIO?

The Gibson ratio, says Solomon Solis-Cohen, quoted in *The Medical World* for December, 1913 (p. 494), is named after the late Doctor Gibson, of Edinburgh, Scotland, and represents the relation between a decreasing blood pressure and increasing pulse rate occurring in the progress of a case of pneumonia. When, represented graphically, there is a space on the chart tracing between blood pressure and pulse frequency, there is



Showing safety line where blood pressure curve is above pulse curve, and danger zone where these curves cross.

comparative safety; when, however, the two lines cross, that is, if the pulse rate is higher than the blood pressure as expressed in terms of millimeters, then danger threatens. The accompanying chart illustrates this better than we can tell it.

CHRONIC INTESTINAL STASIS

Sir W. Arbuthnot Lane, the distinguished English physician who recently visited America, is an earnest believer in the pathogenic influence of gastrointestinal autointoxication upon the body and its functions. In a paper recently published in *The British Medical Journal* (Nov. 1, 1913, p. 1125), he outlines some of the symptoms that may result

directly from such forms of toxemia, as follows:

(1.) The loss of fat. (2) Wasting of the voluntary and involuntary muscles. (3) Degenerative changes in the skin, including alteration in texture and pigmentation, sometimes so deep that the patient appears to be suffering from Addison's disease. (4) Subnormal temperature, especially of the extremities, the bloodless condition of the latter sometimes being so extreme as to simulate Raynaud's disease. (5) A condition of apathy, stupidity or general mental misery, which may become exaggerated into a state of melancholia or even apparent imbecility; these patients sleep badly, suffer from neuralgic symptoms and neuritis, headache, and convulsive disturbances, and may even commit suicide. (6) Patients complain of rheumatic aches and pains in the muscles and joints, often in the skin. (7) Thyroid gland wasting, so much so that in marked cases no evidence of its presence can be detected by the finger. (8) The blood pressure may be raised or depressed. (9) The mammae show very definite degenerative changes, especially in the upper and outer zone, and cancer readily develops. (10) There is a tendency to prolapsus of the various abdominal organs, illustrated by falling kidney and prolapsus of the uterus. (11) The patient becomes breathless upon exertion, this symptom often simulating asthma. (12) Degenerative changes in the heart-muscle may be the result of antiointoxication, also atheromatous degeneration of the blood-vessels. (13) The kidneys are liable to become affected by the abnormal strain, changes resulting that are readily grouped under the term "Bright's disease." (14) The hair of the head loses its color early in life and tends to fall out. (15) Chronic disease of the pancreas may ensue, also pancreatic diabetes. (16) The ducts of the liver and gall-bladder may be infected, and the various diseases of this organ and its appendages may follow. (17) Degenerative diseases of the eye frequently are produced by autointoxication.

As to the method of treating autointoxication and the diseases which it causes, Lane depends principally upon surgical measures, although he is an advocate of the use of liquid petrolatum as a laxative in the early stages and in the milder cases; the oil preceding the food in its passage along the canal and facilitating fecal passage. He also advocates the use of a spring support, which presses on the abdomen below the umbilicus and stimulates the intestines to muscular

activity. But the treatment which he advocates most warmly is surgical, this consisting in division of constricting mesenteric bands, gastroenterostomy, ilioocolostomy, and even removal of a portion of the colon—colectomy.

TWO NEW ARSENICAL COMPOUNDS FOR SYPHILIS, GALYL AND LUDYL

Drs. Beurmann, Mouneyrat, and Tanon, in a paper read before the Medical Society of Hospitals of Paris, discussed two new arsenical derivatives which they claim to possess several advantages over the arsenobenzol derivatives as antisypilitic remedies. These remedies are not vasodilators, they do not coagulate albumin, have a minimum of neurotropic action, are readily soluble in sterile water, and are sterilized at a temperature of 120 degrees. Furthermore, they have a marked parasitotropic action, not only for the spirochete of syphilis, but for other spirillae as well as trypanosomes.

These two synthetics, discovered by M. Mouneyrat, are, galyl, or 1116 (tetraoxydiphosphaminodiarsenobenzin), and ludyl, or 1151 (phenyldisulphaminotetraoxydiaminodiarsenobenzin). They are in the form of a yellow or yellowish-gray powder, readily soluble in sterile water. Their toxicity has been investigated for various species of animals. In the monkey, particularly, the maximum toleration of galyl and of ludyl is from 0.08 to 0.10 Gram, intramuscularly, and from 0.05 to 0.07 Gram, given intravenously, per kilogram of body-weight.

Experiments with animals have shown that these substances possess a very marked parasitocidal action. Under their influence, the trypanosoma gambiense, the spirillae of Dutton (the microorganisms of African recurrent fever), disappear rapidly, and do not reappear. In man, the clinical experiments in more than 220 patients have demonstrated an equally powerful influence in syphilis.

As with arsenobenzol, there are two methods of administration, the intramuscular and the intravenous. Intramuscular injections are made in oily suspension, 1 Cc. of emulsion containing 0.30 Gram of the remedial substance.

The injections, dosed at 0.5 Cc. each, are made into the muscles in the lumbar regions, on each side of the body, and repeated every eight days. Intravenous injections are made either by the customary method, or else with new autoinjectable ampules, which allow of

a solution of the substance in distilled water, under aseptic conditions, at any desired moment.

TREATMENT OF CHRONIC BACILLARY DYSENTERY

Leonard Rogers, whose studies of amebic dysentery have led to the general adoption of emetine as a specific for that form of the disease, presents, in *The British Medical Journal* (Nov. 8, 1913, p. 1198), a new and apparently successful method of handling the chronic bacillary type.

This form of dysentery, Rogers says, has a very high mortality, the percentage of deaths in one large Calcutta hospital, where several hundred cases are treated yearly, reaching 40 percent. He has tried the stock vaccines, but has been disappointed. Occasionally he has obtained good results with an autogenous dysentery vaccine, but just as frequently this has failed also.

The lesions in dysentery of the chronic bacillary form are practically limited to the lower portion of the large intestine. In these chronic cases, there are extensive depressed and often serpiginous ulcers, located on a thickened bowel-wall.

Considering the location, general internal treatment with the laxative salines and other classical remedies does not seem indicated, since the drugs given by the mouth must traverse the whole length of the gastrointestinal canal before reaching the seat of the disease. The best results are obtained with the silver salts. Silver nitrate is a useful remedy, but has two serious disadvantages: first, it is precipitated both by chlorides and albuminous substances; and, second, when used in sufficient strength, it is likely to cause severe pain.

Rogers has recently been using in these cases the organic silver compounds, the best results having been obtained from silver gelatose (albargin). This gave the best results in broth-culture, killing the Shiga bacillus in five minutes in dilutions of 1 : 500 and of 1 : 1000, respectively, in two trials. Nargol was next in efficiency, while protargol and mercuriol also were considered of value. A number of other remedies were tested, among them iodine, which, dissolved with the aid of potassium iodide, was quite effective.

However, albargin was the remedy of choice. This was given in enemas containing 16 grains in 1 pint (that is, 1 grain to the ounce, or approximately 1 : 500). This quan-

tity is usually increased to 1 1-2 pints of this solution. These enemas are given once daily, and should be retained for from fifteen to thirty minutes. In practically all the cases reported, improvement was immediate, and in most cases was permanent.

PRESERVING RUBBER GOODS

In our January issue (page 66) various methods of preserving rubber goods were enumerated. This being a question of a certain practical interest to many (for it is annoying—sometimes serious—to find rarely used apparatus worthless when needed; such as catheters, stomach-tubes, bulbs), we will add a few more suggestions that have come to mind; namely: Immerse the soft-rubber article (1) in a 1-percent solution of formaldehyde (formalin 1, in water, 100), or (2) in a 1-percent zinc-chloride solution, or (3) in a saturated solution of boric acid (1 : 32).

WATER-GLASS FOR PRESERVING EGGS

Logically there should be no room in a publication like this to touch upon preserving eggs; however, at a period in history when the lucky possessor of a dozen of this "hen-fruit" is classed with the Cræsus, while, moreover, the family doctor also makes himself popular in proportion as he becomes useful as the family adviser in matters of supreme importance, a hint in this direction may not come amiss at this juncture in rural communities.

The best method, at present known, of preserving eggs for a number of months is, to immerse them in a 10-percent solution of sodium silicate—that is, the so-called soluble glass or water-glass. But, the water-glass of commerce is a crude product of very crude processes and, hence, varies greatly in composition. To what unexpected extent, has lately been ascertained by two German food-experts. These chemists have found the preparations sold as solution of sodium silicate to range widely in their content of silicic acid relative to the sodium.

This fact has an important bearing upon the question of preserving eggs. For, free alkali causes the white of the egg to turn yellow (even brownish), and to become opaque, gelatinous, and even solid; while the yolk also becomes hard and turns greenish. These changes occur similarly when the water-glass is abnormally alkaline. Thus, one sample changing the immersed eggs in

this manner was found to contain but 1.4 percent of silicic acid, to 24 percent of sodium oxide; while the proportions in another sample, that proved satisfactory, were 36 percent of silicic acid and only 10 percent of sodium oxide.

It is plain that anyone undertaking to put away eggs in water-glass solution (and this must be before they are a week old) should get it under the guarantee of a reliable dealer, who himself should test it or hold a similar guarantee. This may prevent great losses, perhaps.

ETHYL-HYDRO-CUPREIN: A NEW "SPECIFIC" FOR PNEUMONIA

Carnot, in his excellent therapeutic review in the November 1 number of the *Paris Medical* (p. 484), says that among the most interesting achievements of the year in chemotherapy are the careful studies made by Morgentroh (see *Therapeutische Monatshefte*, 1913) on a derivative of quinine, ethyl-hydro-cuprein. This body was shown by the investigators to possess a specific action upon the pneumococcus of mice, and they have succeeded in curing 90 to 100 percent of these little animals experimentally infected with this organism, the dose employed being 0.7 Gram for a 20-Gram mouse.

Unfortunately, this drug, when employed by Fraenkel in the treatment of humans, has not proven very successful. He treated 21 cases, and of these one-half were not benefitted; in 25 percent the action was doubtful but in the rest there was a marked favorable action. Furthermore, there were disagreeable complications, especially passing amblyopia in 14 percent of the cases. However, Wright, who injected the remedy under the skin in 1- to 2-Gram doses, never observed any amblyopia.

It may also be noted that hydro-cuprein possesses some valuable anesthetic properties. These facts, while interesting and suggestive, do not encourage the general use of the drug in human practice. We shall still use the defervescent alkaloids.

REINFORCEMENT OF TUBERCULIN WITH IODOFORM-THERAPY

In an address delivered before the Balneologic Congress held in March at Berlin, Dr. Rothschild, of Soden, maintained (*Muench. Med. Woch.*, 1913, No. 16) that serotherapy alone never can effect a cure in

tuberculosis, inasmuch as these agents merely neutralize the specific toxins; but that bacilli can be destroyed only by chemical means. With this idea in mind, Dr. Rothschild proposes that serotherapy be supplemented by chemotherapy; and he suggests iodoform—which already has given such excellent account of itself in surgical tuberculosis—be given a thorough trial in conjunction with tuberculin.

We hardly need remind readers of CLINICAL MEDICINE of the advantages of iodine-therapy in tuberculosis, for many have used calxiodata in this disease with excellent results.

THE TREATMENT OF WEAK FEET

The proper treatment of weak feet, which, if neglected, become flat feet, says Charles Ogilvy (*N. Y. Med. Jour.*, Sept. 6, 1913, p. 449), by no means consists in the insertion of plates or foot-supports such as patients usually are advised to procure at some shoe-store. Such arch-supports do more harm than good.

A proper plate is one which supports the foot from the front to the back and also laterally when the foot is performing its function of weight bearing, and this can be made only from a plaster model. Furthermore, the employment of any arch-support is detrimental unless the eversion first is corrected. This can be accomplished by elevating the inner side of the heel of the shoe and extending the heel forward on the sole some three-fourths of an inch. This should be done in every case. In milder cases, this will be sufficient, providing the shoe is built on proper lines.

Foot exercises help to strengthen the muscles, thereby enabling the patient to retain the corrective position. However, in many cases the patients return after a time, with the statement that the correction of the foot can not be maintained when the plate and shoe are removed.

In such cases of this latter kind, Doctor Ogilvy advises an operation for the fixation of the astragaloscaphoid joint. A curved incision is made immediately over this articulation down to the astragaloscaphoid ligament, and through this ligament to the joint. The articulating surfaces of the two joints are removed and the wound is closed with catgut sutures. Gauze dressings are applied and the forefoot drawn inward and downward in marked inversion. A plaster-paris bandage is applied, to hold the surfaces

in position. It is allowed to remain on for about five weeks.

TREATMENT OF GONORRHEAL RHEUMATISM AND ORCHITIS WITH SENSITIZED VACCINES

At a meeting of the Medical Society of the Hospitals, reported in the *Gazette des Hôpitaux* (Oct. 28, 1913, p. 1939), Dopfer and Pauron report the case of a patient who, after an acute gonorrhea, was attacked by rheumatism of the right knee. Prior to this time no treatment had succeeded in relieving the pain or swelling. When the patient entered the Val-de-Grâce Hospital, the right knee was greatly swollen and the lower limb in a condition of semiflexion, walking, and the standing position being practically impossible.

The subcutaneous injection of gonococcus vaccine brought about a considerable local reaction, by the next day, however, the pain and swelling had nearly disappeared. A second injection produced complete disappearance of the articular phenomena and the patient returned to his normal condition and was able again to walk. This truly surprising result was obtained within five days.

The authors cite several other cases no less convincing in which this treatment has brought to a happy termination old and chronic cases in which the entire therapeutic arsenal had been employed without decided modification of the disease. In chronic cases, however, the cure is much more slow and usually requires numerous injections, but the improvement obtained after the usual methods of treatment have failed is most striking. Furthermore, the authors declare that patients suffering from severe gonorrheal orchitis, with the intense pain which accompanies it, have benefited greatly by this method of treatment. Within twenty-four hours after the first injection, the pain disappears and the tumefaction is reduced, and at the end of two to four days the swelling is reduced to a simple epididymal kernel, which thereafter slowly disappears.

THE DIAGNOSIS OF GASTRIC ULCER

The history and symptoms of gastric ulcer are typical in but few cases, remarks J. R. Verbrycke in *The American Journal of Medical Sciences* (Nov., 1913, p. 742). There is no characteristic sort of pain, although in the different individuals the pain usually does appear at a fixed time after meals, and

always at the same time in the same patient. This pain is relieved by food, alkalis or vomiting. The vomiting of blood, one of the old cardinal symptoms, does not appear in ten percent of the patients; and even nausea and vomiting, while many times present, are absent in fully one-half of ulcer-patients.

Two points are of decided value in the consideration of the history: (1) There is a certain periodicity, that is, after prolonged ill health all the symptoms may be completely relieved for days, weeks or months; (2) when the pain is most severe, all other symptoms from which the patient suffers are likely to be increased. Upon physical examination, a tender point will usually be found at some spot in the epigastrium or at the dorsal vertebræ behind, or in both places. However, this tenderness is often slight, and it may be absent. When present, it always occurs in the same spot.

Of the laboratory tests, Verbrycke attaches more importance to the determination of occult blood than to anything else. Since the bleeding is intermittent, several examinations should be made under varying conditions.

The benzidin reaction is the best of which the writer has knowledge, but blood from hemorrhoids, from the gums and elsewhere along the alimentary canal should be excluded. Also of value is the thread-impregnation test of Einhorn. Hyperacidity is found in a large proportion of the cases, but may be absent. The x-ray examination is of undoubted value.

To summarize, Doctor Verbrycke submits that there are several points which practically assure a diagnosis; namely: tender point, with occult blood; hypersecretion, with tender point; hypersecretion, with occult blood; tender point, with repeated positive thread tests; tender point, with hematemesis; hematemesis, with hypersecretion; hypersecretion, with positive thread tests.

VITILIGO AND SYPHILIS

Drs. Pierre Marie and Crouzon presented to the Société des Hôpitaux, at its séance of July 5, 1912, a patient who had been affected for the last two years with vitiligo and cutaneous syphilis of the secondary-tertiary stage. This observation goes to confirm the hypothesis that certain vitiligos are of a syphilitic nature. As early as ten years ago, these authors formulated this hypothesis, but it has not become classic, although a number of authors have corroborated this opinion.—*Paris Médical*, 1912, p. 178.

Miscellaneous Articles

Careless Examinations, or Snapshot Diagnoses

THERE have appeared in print, from time to time, articles by various eminent men asserting that the so-called "snapshot" diagnoses leads many a man into an infinite amount of trouble. Many a case of "rheumatism" has no connection whatever with rheumatism. Thus, for instance, the most striking illustration of neglect or carelessness in diagnosis I have ever seen was in the case of my own father, whose trouble was diagnosed as sciatica by three physicians, who ascribed the pains in the thighs and legs to that form of rheumatism. In reality he had a malignant tumor located in the epigastrium, and this growth was so large that he could palpate it himself. He was taken to a Chicago surgeon, and in five minutes a correct diagnosis and an absolutely correct prognosis was given. He died just one month later. Although I was but fifteen years of age at the time, this error impressed me deeply, and I could not quite forgive the men who had tortured him with the x-ray, static electricity, massage, and other methods that were absolutely contraindicated in a case such as his.

During my practice I have encountered a number of mistaken diagnoses, some not so grave as others, but most of them owing to snapshot judgment rather than to deficiency in schooling or medical education. However, we are none of us infallible; but I believe the following case will interest some of you.

The patient, a woman 43 years of age, came to my office complaining of pain in her right arm and shoulder. The arm was not in normal position, but was held away from the body at about a 45-degree angle and could not be raised except from the elbow. The shoulder-joint was practically immovable except when the scapula and all moved with it. She said she could not do her housework, comb her hair or button her clothes in the back. She could not put her hand to her face without bending her neck to meet the hand.

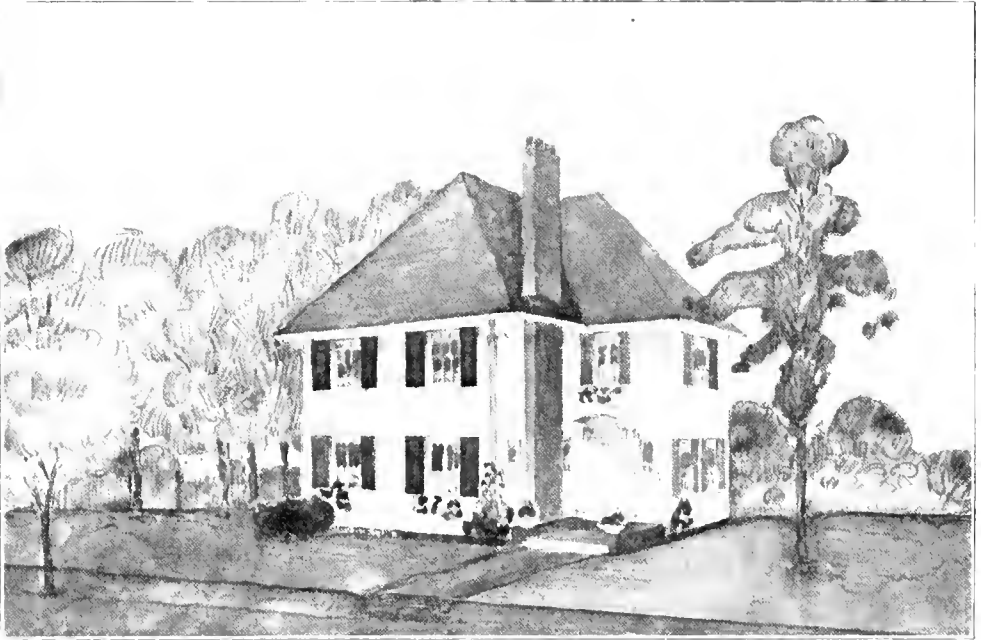
Her husband said she had treated for rheumatism for the last eight months, but there

had been no change. Then, one month ago, she was anesthetized by a physician, who attempted to reduce the dislocation but failed. Then he called in an Osteopath. Together they pulled and twisted the arm, using traction, with the knee in the axilla. This attempt was unsuccessful, and when he wanted to anesthetize the patient again, a month later, and repeat the operation, they refused. Then he suggested the use of the x-ray; but they refused, thinking that he had no idea of what the condition really was.

Upon inquiry, the woman then informed me that eight months ago, while gathering eggs on the farm, she was standing on a box about 2 feet high and had her right arm in the hen's nest, when the box she was standing on slipped out from under her feet and she was held by the edge of the next box, which caught her in the axilla. She was unable to do her work or raise her arm for months and it was exceedingly sore and painful. She was not aware of the extent of the injury at the time, thinking she had just wrenched the arm, when, in fact, it had been forced up and out of its socket.

Later she consulted the physician in question, and he made a diagnosis of rheumatism, as before mentioned. During all this time she was complaining of various severe pains in the arm and region of the shoulder, and especially about the shoulder-joint.

I found the humerus dislocated upward and a marked ankylosis in the new shoulder-joint. The head of the humerus was plainly visible and palpable above the clavicle. The arm was 1 1-2 inches shorter than left arm, immobile so far as lifting up from the side was concerned. The muscles in the anterior axillary region were tense and hard. She was unable to raise her hand to the face and unable to lift the arm straight up from the side. Plainly, the trouble was a traumatic upward dislocation of the shoulder, caused by the force transmitted to the axilla, pushing the humerus upward out of the glenoid cavity.



A Combined Physician's Residence and Office, Especially Drawn for Readers of Clinical Medicine

In instituting treatment, I gave her a full tablet of hyoscine, morphine and cactoid half an hour previous to administering ether for anesthesia. Then I reduced the dislocation by Kocher's method; manipulated the arm in various normal positions while she was under the anesthetic, and then bound the arm to the chest and to the opposite shoulder with adhesive straps, and over this a bandage which included the arm and the right side of the thorax, to insure immobility of the arm and the shoulder-joint. I left it this way for five days, then removed the adhesive straps. Then I instituted passive movements and massage, and these were repeated from day to day, the patient coming to my office every day for the passive massage, while doing as much with the arm as possible at home. During the reduction of the shoulder care was taken to break up the adhesions.

Condition improved gradually under the passive treatments, and in about four weeks there was complete mobility for passive movements, and nearly so for the active, until now she has complete use of the arm. The soreness has entirely disappeared and she can use the right arm as well as the left one. The arm can be put in all the normal positions without difficulty or pain to the patient, and the deformity has entirely disappeared, as well as has all the pain and stiffness.

The medicinal treatment was as follows: Sodium salicylate, grs. 5, three times daily; and, externally, linimentum chloroformi, to be used when massaging the shoulder and arm at home.

As the literature at hand says very little about this sort of lesion, except that it is quite rare, I thought possibly it might interest some of the readers, as well as illustrate the necessity of a thorough physical examination as a routine procedure.

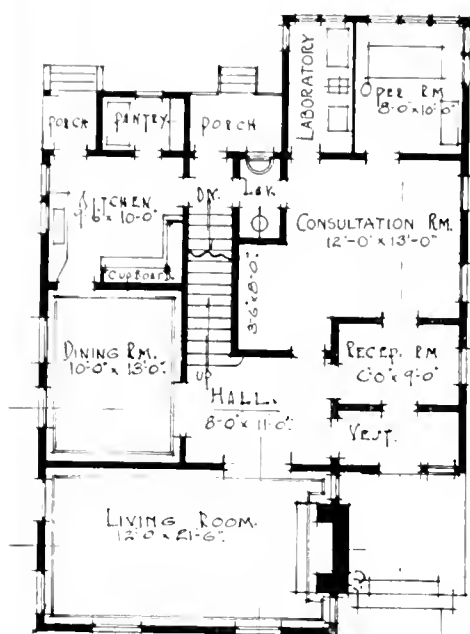
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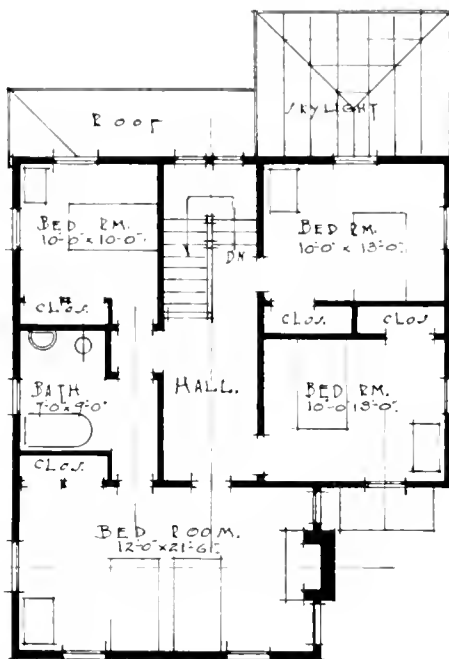
A COUNTRY OR SUBURBAN HOME FOR A PHYSICIAN

On this and the following page we show the floor plans and front elevation of a house for a physician practicing in a city suburb or in the country. This plan was drawn especially for CLINICAL MEDICINE by Mr. Arthur H. Busch, 1306 Gregory Avenue, Wilmette, Illinois. A few words of explanation may add to its interest.

In the first place, the house, as here designed, is capable of being enlarged or reduced somewhat, according to the taste and purse of the builder. For instance, some physicians will find a reception-room and a consultation-room sufficient for their needs. If such be the



First Floor



Second Floor

Floor-Plans for Combined Physician's Residence and Office. Arthur H. Busch, Architect

case, the operating-room and the laboratory may be omitted, although these will be found most convenient and desirable. If possible, the house should be so arranged that these two rooms may face to the north, so as to get the best lighting without the direct rays of the sun. It will be observed that a skylight will permit of influx of light from the top, in addition to that coming from the sides. In order to flood these rooms and also the consultation room with an abundance of light, Mr. Busch suggests that the partitions between these three rooms be made partly of ground glass.

The consultation room is made very large, so that it may accommodate the doctor's library as well as any larger apparatus, such as a hot-air apparatus, a static machine or anything of that kind. However, the books may be housed in the recess next to the stairway. If it is desired, a door may open to the outside for an exit, although the arrangement shown will probably be most satisfactory to the majority. The laboratory room is ideally lighted—just the place to work with a microscope, or do the ordinary routine of testing secretions and putting up prescriptions. The operating room is just the place for making dressings, performing minor operations or, in case of emergency, a major operation as well. I should be fitted up with

white enamel furniture, a sterilizer, instrument-cases and an operating-table. Also a sink can be placed in the operating-room opposite that in the laboratory room, the plumbing being conveniently arranged for this purpose.

The arrangement of the living-quarters requires no special description. We are sure that it will appeal to the doctor's wife, who will be most interested in this part of the plan. The living-room is large, with a big open fireplace, and the bedrooms are exceptionally large. The one to the front of the house, which is 12x21½ feet, is ideal. If it is desired, this room can be converted into a library or study.

Some of our readers will want a covered porch. Mr. Busch believes that, if a porch is desired—which usually will be the case in the country—it may best be added on the side of the house, adjoining the dining-room. This is an ideal location for an enclosed porch, and it would be especially attractive for outdoor meals during the summer time. If a sleeping-porch is wished, it would be very easy to put one at the back of the house, over the operating-room.

This plan is simple, dignified, and beautiful; it is capable of numerous changes and elaborations, and, we believe, will fulfill the needs of hundreds of physicians who are

planning to build. It will cost in the neighborhood of \$5000—more in some communities, less in others. It all depends upon material and labor costs and the quality of finish.

Any doctor interested in this subject who wants a home of his own, whether like this one or not, should write directly to Mr. Busch, who will be very happy to answer all inquirers and will give any advice or assistance within his power in making plans and elaborating ideas.

When you build, build a house suited to your special needs; and, if this plan doesn't "fit," then arrange for something that will. It is cheapest in the long run to consult an architect.

Next month Mr. Busch will submit a plan for a physician's combined city residence and office.

HOW I MANAGE AN OBSTETRIC CASE

Many people underestimate the importance of an obstetric case. "Ketchin' a kid" is no light or trivial thing, and when a woman goes down into the dark valley to bring forth a child she is entitled to the *very best* treatment and consideration possible to give her.

We have our works on obstetrics and also many treatises and articles on forceps and other abnormal deliveries, and they are all valuable; however, the fact is, that the great majority of cases are normal and the women would get through all right without any "medical assistance." Then, if that be true, what's the use of a doctor, anyhow? I have been in consultation with doctors (I dislike to "knock") where this question had point, indeed; but, as for myself, I can freely say with a good conscience that I have never conducted a case where I did not honestly earn the fee, and many times much more.

The first thing necessary to good (I do not say "successful," for that is a questionable standard) obstetrical work is the mental attitude of the accoucheur. Whatever the circumstances—"sent for" or unwelcome, sick or poor, bastard or legitimate, first or thirteenth—the little being headed, or breeched, toward the world is a potential man or woman, with all the rights to life and all that that means. And the mother—however she might have "got it"—she is at a crisis, and has the right to my very best service. When I attend a case I am *on the job* from the time I enter the house until I leave it; there is no time for anything else whatever, except, of course, during those

long tedious first stage, when sometimes I may eat a bit.

The first thing I do is, to make an external examination, if I have time, so as to get the "lay of the land." If there is as yet "no baby," then I get as full an understanding of the course of gestation, previous deliveries, and other facts as is possible. All this with as much sympathy and encouragement as conditions demand. I have heard doctors say that if they could get their obstetrical patients angry they would "work." Such a doctor ought to be obliged to have a baby every six months, if the laws of nature and pregnancy could be changed, and kept up until he got that brutal notion out of his head. I have never seen a nervous, apprehensive mother-to-be whom I could not help by judicious sympathy and encouragement.

Next there comes the cleansing of the vulva, sterilization of hands, and an intravaginal examination. This latter is for my own use only, and all the uninvited neighborly guests get for a while is that "everything seems to be going all right." Then comes a little trick that has worked wonders for me many times, surprising to the initiates. I saturate a piece of cotton in a 5-percent solution of quinine and urea hydrochloride and place it within the vaginal orifice; then, if there is a half-hour of grace, the woman is spared that excruciating end of the second stage so often witnessed.

These things done, I simply watch and keep tab on things, after having got all things ready. If there is a rigid os, I give one granule of caulophylloid every fifteen minutes until the rigidity melts away. If progress is slow and pains are not efficient, I give 15 drops of pituitrin solution hypodermically if she is a multipara; but I am a little slow to give it to a primipara unless the soft parts are relaxed.

During the later period of the second stage I attend to business. I do not fuss, but quietly keep my fingers on the advancing portion of the child and direct the energies as much as possible, slowing it up to prevent a tear. In this way I have but very few lacerations occurring.

In those cases of extreme nervousness and suffering, I use hyoscine-morphine-cactoid or hyoscine-morphine-cactoid modified, as may be indicated. I have used one or the other preparation *many times*, and with *not a single* bad effect from it. On the contrary, I have seen only good results. When pituitrin is given, I expect a short third stage and prompt and effective contraction. Immediately after cutting the cord (I tie twice), I find out about

the condition of the womb. If the contraction is good, I wait, *but watch*.

Having given the directions as to dressing the cord and taking care of the baby, I turn it over to the nurse and attend strictly to the mother. Here is where most accidents occur, and my hair has stood *a la pompadour* a few times; still, by being on the job, I have always checked serious trouble.

I follow that old wornout, fogified, antiquated practice, that, I presume, was used in the 60's when I first raised a wail: I give ergot *after* the placenta is expelled—not before. It may not be necessary, but I believe it is a good thing to do. More depends upon the first hour after delivery than upon a much longer time later.

Being assured that the placenta is “all there” and the womb is empty and contracted, I begin a half, three-quarters or whole hour of careful but not fussy watching. If the baby has cried vigorously and seems all right, I let the nurses have full swing, except that in the case of a boy I see to it that the binder is put on *as loosely as practicable*. I like the truss-makers, but I don't want to prepare a patient for them by a tight bandage on a baby. The removal of the Kelly pad (I use one—it makes friends with those who have to clean up, if nothing else) and the toilet with bichloride solution, placing on the binder, and then a good examination of the baby complete the job.

I am now ready to depart, but count out a few 2-grain phenolphthalein tablets, to be used as needed, and a half dozen hyoscine-morphine-cactoid modified for afterpains. No after-visit is made unless I am called.

B. F. VAUGHAN.

Meno, Okla.

[Obstetrics is changing rapidly, like everything else in medicine, as Dr. Vaughan's interesting article shows. New and valuable remedies and the management of these cases along surgical lines are causing the revolution. And the public is “getting wise.” Just as an illustration of the extent of popular enlightenment, I may cite a malpractice suit recently started against a Chicago doctor because he did not use rubber gloves in the management of a confinement case!]

A word of warning about ergot. We recently had occasion to have a number of samples of ergot tested pharmacologically to determine their activity. Only 3 of 26 samples examined were found real good, 2 were of fair quality and the rest were practically worthless. It is apparent that the

doctor needs to be mighty careful in selecting his supplies of this drug.—Ed.]

TONSILLITIS

This is the time of year when tonsillitis is encountered. To abort it get busy early.

When the patient is first seen, clear out his bowel with calomel, gr. 1-6; bilein, gr. 1-8; and irisoid, gr. 1-6, given every half hour till four to six such doses have been taken. Follow the last dose with a saline laxative to full effect. After the bowels have been cleared, begin with the tonsillitis mixture, composed of aconitine hydrobromide, gr. 1-3000; bryonin, gr. 1-500; atropine sulphate, gr. 1-1500; mercuric iodide, gr. 1-100; and saccharin and aromatics as flavors. Give this at intervals of one-half hour, till there is dryness of the mouth and throat; then lengthen the interval to one or two hours, so as to maintain the effects. Along with this, push calcium sulphide, 1-6 grain every hour or 1-2 grain every two hours, until the patient is absolutely saturated. If the aconitine in the mixture is not sufficient, add more until the desired effect is obtained.

Examine the urine in all cases, and if acidemia is shown push sodoxylin to full effect or until the degree of urinary acidity, as shown by the Harrower acidimeter, is between 20 and 40 degrees.

This, in a nutshell, is my treatment for acute tonsillitis, and if I see the case early a satisfactory result follows in ninety percent. All remedies must be pushed to full effect, and this maintained until recovery. Two cases recently coming under my observation showed improvement within twenty-four hours after the application of the calcium sulphide and the tonsillitis mixture, and complete recovery within three days. Sodoxylin was omitted here, as neither case showed acidemia. Otherwise the treatment outlined above was followed to the letter.

GEORGE L. SERVOS.

Gardnerville, Nev.

BRONCHOPNEUMONIA IN CHILDREN

Your frequent importunities for contributions have at last stormed the fort of my reticence—reticence, because who am I that I should presume to add anything to the many good things reported in our most excellent journal?

I will offer a few comments on bronchopneumonia in children. As the Irishman said about a runaway horse, “the best time to

stop him is before he begins to run." So it is with bronchopneumonia. The best time to cure it is in the initial "cold" stage. The trouble very often lies with the parents, who, regarding the trouble as "only a cold," treat the child with home remedies or patent medicines till alarming symptoms supervene; and only then a physician is summoned.

Upon arriving at the bedside, we usually find the little patient with heart at 120 or more per minute and respirations from 30 to 40. (Don't make your diagnosis on these symptoms alone, as I have many times seen the same symptoms in acute intestinal diseases.) The fever is usually 102 degrees or more. Râles abound all over lungs, unless the bronchioles are altogether occluded. Cough is usually quite severe, with expectoration more or less profuse, according to whether the cough is "tight" or "loose." The expectoration is always swallowed by children not old enough to spit it out, and for this reason the bowels need to be well looked after during the course of the disease.

In a great many cases, we find the bowels more or less tympanitic and frequently constipated. The first indication is, to "clean out," "clean up" and "keep clean" in the usual way—you all know how, if you have read *CLINICAL MEDICINE*. After a thorough house cleaning you will find your patient feeling more comfortable and the temperature reduced two or three degrees. In urgent cases, high enemas give excellent results.

In addition to the foregoing, the thorax all over the lung-area should be well rubbed with hot camphorated oil to which oil of mustard has been added—30 minims to 4 ounces. This produces good counterirritation, without danger of blistering.

I do not use any of the clay pastes in these cases—for several reasons. I cannot think it good policy to close up a large area of pores, as is done when such a paste is applied. Then, also, if a patient has 4 ounces of antiphlogistine applied to his thorax, how much extra labor has he to do in twenty-four hours? This patient is breathing 40 times per minute. Let us see: 4 ozs. x 40 = 160 ozs. per minute. 160 x 60 = 9600 ozs. per hour. 9600 ozs. (or 600 pds.) x 24 = 14,400 pounds. In other words, 7 tons' weight is lifted in one day by the sick little child. Quite a load for even a well man to lift in twenty-four hours!

Further, clay poultices applied to the chest with cloth outside act like an adhesive strapping, thus limiting the motion of the ribs during respiration. This may be desirable

in some cases where the pleura is involved, but the average case requires every iota of expansion that is available.

A very important factor in the management of these cases is the ventilation of the room. The room should be kept at an even temperature of from 65° to 68° F., and a dish of water with a little oil of eucalyptus in it kept on the radiator or register adds humidity and a slightly disinfectant quality to the air. In damp or cold weather, I cannot agree that it is proper to admit the outside air directly to the patient's room. Fresh air I insist upon, but let it be warmed and otherwise modified before admitting it to the sick-room. Bathing the face and extremities in cool or tepid water reduces the temperature and makes the patient feel better.

For the fever, give veratrine if the skin is dry; aconitine, if moist. Give digitalin, brucine or strychnine arsenate for bracing. Calx iodata to hasten resolution; give in good-sized doses, 1-2 to 1 grain or more every two hours in order to get good results.

If an expectorant is required, ipecac or emetine is about the best that can be used. An occasional emetic dose of ipecac does good in small infants who cannot "cough it up," by emptying the bronchi of mucus.

These things, together with proper feeding, I consider the essentials in the management of the average case of bronchopneumonia.

A. F. WRIGHT.

Wayne, N. Y.

THE ARMY TEST RIDE

In the December number of *CLINICAL MEDICINE*, we editorially called attention to the great burden which was being put upon the older army officers through the compulsory annual test-ride. We felt, and still believe, that such a test not only was unjust, but also dangerous, and that the lives of many useful men were being shortened and the army thereby deprived of the service of a class of skilled men whom it is impossible to replace.

We therefore were much gratified to learn that, on November 24 last, General Wood, chief of staff, gave directions modifying the severity of these tests. This order reads as follows:

"Field officers who are 60 years of age and over will be exempted from the annual physical test, although these officers will be subjected to the annual physical examination.

"Officers of the permanent staff corps and departments above the rank of captain who are not detailed from the line, who are engaged upon work of a general character and who have reached an age and rank which render it highly improbable that they will ever be assigned to any duty requiring participation in active military operations in the field may, upon their own application, forwarded through military channels to the Adjutant General of the Army, be excused from the physical test prescribed in this order; but all such officers who are below the grade of brigadier-general shall take the prescribed physical examination."

While everybody desires that our army officers should be picked men and in the prime of condition, certainly no one wishes that the conduct of the army should be characterized by lack of interest in the welfare of the able men who are doing its work.

PREVENTIVE MEDICINE. QUACKERY

That portion of your article on "The War on Quacks" which refers to preventive medicine impresses me peculiarly. I have been a country and village family doctor for twenty-five years. I try to keep up to date, use vaccines, bacterins, and all that. I have made it my invariable rule to advise my families, in season and out of season, how to avoid sickness; but I must say that such advice has not been acceptable to the average patients.

A great proportion of sickness is due to vicious habits, ignorance or errors of living, and people do not, as a rule, want to be jolted out of their chosen ways of living. Most of them feel like the little boy when warned about too much pie, "Well, give me the pie, anyway, and send for the doctor." People desire to indulge their appetites and passions and then come to us to be relieved of the unpleasant results of their indulgence.

I am not a pessimist—I am getting too much enjoyment out of life for that—but it is a very solemn fact that the average individual wants to do as he pleases. Not until the burden of disease becomes so heavy that it frightens them are people willing to mend their ways. And sometimes not even then!

I can scarcely credit the cynical comments attributed to the average physician on the quack doctors' methods. I do not believe the average doctor is such a commercial mercenary. Maybe I am old-fashioned, for, twenty-five years ago I studied the code of

ethics of the American Medical Association, with comments by Austin Flint. The teachings of that code and the comments were noble, and it does not seem possible that the majority of physicians have so far departed therefrom as your article would indicate.

But so far as the people are concerned, it will be a long time before they are educated sufficiently to be willing to curb appetites and passions, overcome carelessness and negligence, and follow even the common rules of correct living that tend to keep the body healthy and prevent disease.

F. A. COGSWELL.

Rockwell, Ia.

[Doctor, we do not believe that the majority of physicians are either mercenary or cynical. But thousands of us are thoughtless, and careless of our own interests—just like the layman you cite, willing to "let things slide." We need stirring up; we need more of the fighting spirit; and we need more "get together." That this is true is illustrated by the lack of comment on the editorial you quote. Quackery, dishonest quackery—and most of it is dishonest—needs to be met and overcome by the honest and not by the hypocritical, mere self-interested, efforts of a united profession. We should fight the thing that is wrong—but never anyone merely because he is "tapping" our purse. Honesty, square-dealing, truthfulness, good service—these are our best weapons.

Read Dr. Church's letter on this page. His plan is good. Also, read some of the exposures printed by the *Chicago Tribune*, which have been assembled in booklet form by *The Journal of the American Medical Association*. And, by the way, I wish every reader of CLINICAL MEDICINE would get a copy of that booklet ("Men's Specialists Frauds") and keep it on his reception-table. The price is 10 cents a copy.—ED.]

ONE WAY TO FIGHT QUACKERY

Have the following printed in your county papers. Let it come from your county society, so it may "advertise" no one man. Ask the editors to furnish you several hundred reprints for distribution:

As physicians, we know that there is very little difference in our medical ability. The difference is on the part of the public—in their minds. Physicians, like other people, are often misjudged, and for this reason we present a few facts for your consideration:

1. When in need of a physician, call the nearest one. This should be done (as a rule) not only in emergencies, but in ordinary sickness.

2. Do not call the second physician on a case until you have spoken to the first one about it. As a rule, the first one will know as much about the case as a dozen other doctors would know.

3. Take the first physician's advice. He's as apt to be right as the second. No physician is anxious to sign death-certificates. For this reason he will suggest consultation when necessary.

4. Bear in mind that all kinds of labor and produce are higher than they were several years ago. Hence, it costs a physician more to live—his drugs, instruments, vehicles, feed, etc.—cost more than they used to; therefore, when the physician tells you his charge is so much, pay it, and don't tell him what it used to be. What we use used to cost us so much, too, but they cost us from 25 to 400 percent more now. Potatoes used to be 25 cents per bushel, they are 90 cents now; corn used to be 25 cents per bushel, we pay 75 cents to one dollar per bushel now; hay used to be \$7 and \$8 per ton, now it ranges from \$12 to \$20 per ton, and in 1911-12 it was \$30 per ton—and we had to pay it, too, or do without. Yet, some people think that physicians should charge no more than they did ten years ago. When a physician charges from 50 cents to \$2.00 more than he used to, he is considered exorbitant. Not so. He is obliged to do so to meet his increased expenses for drugs, instruments, feed, and everything he has to buy.

5. Since miscarriages are more dangerous than normal labor, we charge as much as for normal labor, and sometimes more. Our responsibility is much greater, too.

6. Physicians' charges vary, according to whether the case is infectious, contagious or ordinary sickness.

7. The distance to the patient and condition of the weather and roads are considered in a physician's charge. Hence, some trips may cost more than others.

8. Any reasonable person knows that it is worth more to make a night visit to a patient than a day visit. Therefore night trips cost from \$1.00 to \$3.00 more than day trips in the country. In some counties, a night visit costs twice the price of a day visit.

9. It requires from four to six years of hard work in college, at an expense of from three to five thousand dollars before a physician is allowed to charge for his services.

Therefore don't compare wages for ordinary unskilled labor with fees for medical or surgical service. There is great responsibility on a physician when a life is at stake. When a family calls a physician, the family thereby shifts the responsibility on to the doctor. Be kind enough to the patient and your physician to call the latter early so that he can have a fair chance.

10. Preserve this article for future reference.

O. C. CHURCH.

Greenville, Ill.

WHY QUACKERY HAS FLOURISHED IN THIS COUNTRY

There are various schools of medicine practiced in this country, and there is some good in all of them. However, regular medicine, sometimes known as allopathy, is a system the therapeutics of which is so broad as to take in everything of real benefit in the treatment of the sick. Sectarianism persists only because some of us are too narrow to investigate dispassionately the various therapeutic schools and healing fads in order to extract from them all that is of possible merit.

It must be borne in mind that the human being is not a machine and that everyone is subject to some idiosyncrasy. That is true of even the lower animals. This characteristic belongs also to members of our own profession. From time immemorial, in almost all callings, a few have assumed to be the leaders and tried to monopolize the attention of the other members of the profession or occupation which they were following; so that "outsiders" may have no opportunity to demonstrate the value of unusual remedial measures unendorsed by the self-appointed leaders. For this reason, these chosen few brand as charlatanism any attempt to demonstrate values in anything outside of the "reglar" channel.

I am nowise defending quacks; still, there are various valuable things that these quacks have taught us doctors, just as Homeopathy has taught us to treat the patient as a human being. Some of the quacks are well qualified to practice medicine, being graduates of excellent colleges and having held internships in first-class hospitals. Some of these men have tried to earn their livelihood by practicing medicine in an honest and ethical way, and then, having found things they thought valuable which they desired to bring to the attention of the public but not being given an

opportunity to introduce these innovations in a "regular, ethical manner," they have been ridiculed, condemned or "read out" of the profession by the powers that be. Inasmuch as self-preservation is the strongest instinct in life, these physicians were led into quackery.

We all remember how we condemned the eradication of hemorrhoids under local anesthesia. We have condemned many other operations under local anesthesia, because such things were not taught in the accredited medical schools. We also have condemned the performing of various kinds of operations unless they were done in well-regulated hospitals controlled by the chosen few. They only were ethical who followed the paths of the presumed leaders and did not think for themselves; the rest of the profession "of course were charlatans," no matter how honest or sincere they might be.

The profession at large certainly does dislike the quacks, not on account of their possible lack of qualifications, nor on account of the size of their incomes, but because they make extravagant claims in newspaper advertisements and deal dishonestly with their patients. But here the question arises whether it is not equally unethical for physicians in good standing to give out for publication statements to the newspapers—statements that, to say the least, are extravagant—which really are advertisements, even if they are not paid for.

To earn a livelihood by practicing medicine, is becoming more difficult from year to year, and for two reasons: first, the economic condition of the layman is becoming more precarious; and, second, the so-called "lights" of the profession are insisting more and more upon a definite, crystallized, orthodox, and undeviating mode of practice and conduct. In order to be recognized by the self-chosen few, you must give up forever your own individuality and must become merely a wheel in the machine, so that when the button is pressed you will respond accordingly. This system has driven more honest, well-meaning physicians into quackery than any other cause.

There is now a tendency in this country to do many operations under local anesthesia, and the scientific reasons for so doing have become very numerous. Local anesthesia is not new, it has been used in this country for years; however, but little attention has been given it by the profession, perhaps because general anesthesia permits more "gallery play" in the hospital amphitheaters—which leads to unnecessary and expensive

operations. Some of our surgeons have pauperized many a man in their efforts to demonstrate their wonderful feats and articles in lay magazines praise their wonderful work! Of course, these things did not appear in the advertising pages; nevertheless, they have had a very bad effect upon the entire profession, and have driven many a well-meaning physician into quackery.

I believe that much of the work now sent to the "great" surgeons can be done by any well-educated and properly trained physician, in many cases under a local anesthetic. In order to help this class, I have written a number of articles for *CLINICAL MEDICINE*, some of which have already appeared, others to be printed in early issues. This material is to be reproduced in book form. In this book I shall describe many of the operations I have taught for fifteen years, operations that can be performed in a thoroughly scientific manner in the office, so that the patient need not lose time from his regular occupation.

I trust this material may be an aid to the country practitioner as well as to the physician engaged in city practice and whose clients cannot give up their occupations in order to be cured of the maladies here treated of; and I also hope that it may be the means of keeping many a doctor in the regular channels of the profession through showing him a way to financial success.

BENJAMIN H. BREAKSTONE,
Chicago, Ill.

[Readers who remember Doctor Breakstone's surgical articles, published in 1910-11, will welcome more of the same kind. He describes the kind of surgery that the general practitioner should know how to do. We do not advise the average man to experiment with major surgery; this requires much experience and unusual skill. But a little training, a little study, will fit any conscientious physician to "extend the borders" of his capacity for surgical work and add largely to his reputation as well as income. We want to see better men in the profession, doing better work, getting more money. Doctor Breakstone is one of the many contributors who are going to help us bring this about. Are you going to help?—ED.]

SOME OBSTETRICAL DANGER SIGNALS

At a meeting of the Clay-Lowndes-Oktibeha Medical Association, held in Starkville, Missouri, Dr. J. W. Unger read an interesting paper from which we are permitted to quote.

After giving briefly the clinical history of three striking obstetrical cases, he emphasizes the importance of three danger signals in handling cases of this character.

The first danger signal is *high arterial tension*. "No physician does his duty to his patient," says Dr. Unger, "who does not utilize one of the many blood pressure instruments on the market and learn from its reading the patient's danger before it is too late."

The second danger signal is the *presence of acid intoxication*, a condition resembling that found in diabetes and probably representing the imperfect oxidation of carbohydrates.

The third danger signal is *insufficient excretion of urea*. The degree of elimination of this substance, in Dr. Unger's opinion, furnishes an index to the toxic wastes which have accumulated in the blood. Urea is always found markedly diminished in the so-called toxemias of pregnancy, and the amount of urea excreted is proportionate to the condition of the patient.

After discussing the theories relative to toxemia of pregnancy, which he does exhaustively and in a most interesting manner, Doctor Unger concludes his paper as follows:

"I shall now suggest some therapeutic agents which, if discriminatingly used, will save some patients otherwise doomed. Examination of the urine monthly for the first six months and every two weeks thereafter is necessary for the benefit of the physician and the wellbeing of the patient. The patient should be instructed to notify the physician should headache, dimness of vision, edema or jaundice appear, all of which are symptoms of toxemia.

"The urine voided during the twenty-four hours should be measured, and if found scanty and high colored, should be estimated for the total output of albumin and urea with Esbach's albuminometer and Doremus' ureometer. The normal output of urea is twenty to twenty-four Grams in twenty-four hours.

"In view of the formerly expressed opinion that normal excretion does not free the woman from danger, and especially if the urine contains albumin, precautionary measures should be taken by placing the patient on an exclusive milk diet, which serves both as a food and diuretic. I have such confidence in the milk diet, if exclusively and persistently employed, that I am confident that no case of convulsions will occur after it has been used for eight days.

"Should the patient have threatening symptoms, induce elimination with hot packs,

sweat baths, and the use of an alkaline purgative. Experimental research has clearly demonstrated that the autotoxic power of the blood is inhibited by a diminution of its chemical salts; and as Jacques Loeb has shown that sodium chloride is essential to the life of the cell and that it heightens osmosis, and in view of these facts, it may and should be given by hypodermoclysis and enteroclysis. Muscular exertion should not be allowed, thus preventing the development of sarcolactic acid and its introduction into the blood and lymph channels and thereby adding another poison to the already overburdened toxic system.

"Thyroid extract should be given in from 3- to 5-grain doses every three hours, the object of which is to stimulate the adrenal mechanism, thus increasing the autotoxic activity of the blood. For the reduction of arterial hypertension veratrum viride is probably equaled by no other remedy; twenty to thirty drops should be given every two hours per os. After convulsions have developed, from 40 to 80 drops should be given hypodermically. There is a special tolerance for veratrum in eclampsia evidently, because cases have been reported in which 400 drops have been used and the patient recovered.

"Personally, I regard lobelia as one of the best agents we have for the control of convulsions. I have succeeded in several cases with it when all the recognized agents had been used ineffectually. It is the Krupp gun in the therapeutics of eclampsia.

"Next to the aforementioned remedies I shall put chloral and the bromides. Chloroform may be used as an emergency remedy, though it is objectional because it irritates the vaso-motor center and the liver, which makes it undesirable when its use can be avoided. On account of the diminished alkalescence of the blood, alkaline agents are indicated and should be given. Owing to the large amount of lime salts needed in the organogenesis of the fetus, they are required and if given will found to dissipate many of the symptoms incident to the pregnant state.

"Bearing in mind the possibility of bacillary infection of the overburdened liver and the organ oftenest diseased in the toxemias of pregnancies, methylene blue may be given as a biliary antiseptic. For the septic state of the blood I have given echinacea and with most gratifying results. One other agent I have used to prevent convulsions recurring is copper arsenite. While I might review many

other means and agents which have been employed, those already suggested will be sufficient in the greater number of instances."

EXPERIENCE WITH HYOSCINE AND APOMORPHINE HYPODERMIC INJECTIONS

Recently, in a dark-haired, pale-faced, high-strung, but self-controlled woman who could not sleep, I used hyoscine hydrobromide, 1-200 grain, and apomorphine, 1-100 grain, with great success. Even when she had painful attacks of neuralgia I was able to avoid morphine with this combination.

Another woman, fleshy, red-cheeked, light-haired, very high-strung and emotional, without much self-control, was made worse by hyoscine and morphine when she was in pain. But morphine and gelseminine hydrobromide was simply perfect in its action in her case.

Apomorphine also is invaluable in poisoning, spasmodic asthma, crazy-drunks, croup, hysterical attacks, and for emptying the stomach of an undigested meal.

F. A. COGSWELL.

Rockwell, Ia.

[One great advantage the family physician has lies in the fact that he learns to *know* his patients—that is if he is a close observer, as every doctor should be. Dr. Cogswell's experience illustrates the value of working with eyes open.—Ed.]

THE PAIGE-DETROIT CAR

A subscriber is anxious to learn the experience of the readers of *CLINICAL MEDICINE* with the Paige-Detroit automobile. We shall appreciate it if any of our readers will write us fully upon this subject.

THE METZ AUTOMOBILE: A REPORT

You ask for a report on the Metz automobile. I am running my second car of this make and have had it about one year. I have driven it 6390 miles, and our roads average very good, many of them being macadamized. I have kept the car in fine condition all the time, and have kept account of every cent spent. Often I have averaged over thirty miles per gallon of gasoline, and I count on 800 miles per gallon of lubricating oil. The cost for grease is very small.

My car will go wherever there is the slightest excuse for a road. Last winter the continuous "mud-time" was hard on all

machines. My 1912 Metz went 5140 miles, at a total cost for repairs, oil, gas, grease, and so on, of \$95.30. My 1913 car cost, for 6390 miles, \$194.17. Out of that sum, \$112.39 was paid to the agent for repairs, besides \$50.30 (not included in the \$194.17 cost of operating the car) for repairs following two unavoidable accidents.

I usually drive at a 20- to 25-mile rate. The cars have plenty of power and speed, but are very poorly upholstered and assembled. As a Metz repairman put it, "They are just thrown together." They ride hard.

I should like information from someone who has kept a strict account of mileage, operating cost and repairs with a Ford runabout.

H. F. CURTIS.

East Longmeadow, Mass.

A FEW GOOD SUGGESTIONS

Preventive medicine is ideal. So is the work of a physician who uses definite active principles, applied to a recognized pathologic condition, based on a knowledge of the positive action of the alkaloid selected. Thus, atropine is greatly preferable to belladonna.

"Anywhere, so it be forward," said Livingston. In therapeutics, this means decoctions and infusions in 1830, tinctures in 1850, fluid extracts in 1880, and standardized galenicals in 1900, on up to the present-day use of the standard itself—the pure alkaloid.

The sedative action of arbutin is due to its property of splitting into pyrocatechin, which has marked antiseptic value. Try it in cystic ulcer, cystitis, pyelitis, and pyelonephritis.

Put down echinacoid as an effective aid in any septic infection. It is devoid of toxic property, but favorably influences chronic ulcers, diphtheria, typhoid fever, erysipelas, stomatitis, and similar adynamic manifestations.

Carsickness suggests *cereus grandiflorus*. We suggest 1-64 grain of cactoid every three hours. In short trips, as in cities, or early in long journeys, a granule every ten minutes usually gives positive results.

Pain is a symptom calling for remedial treatment only when severe. Similarly, urinary acidity demands therapeutic intervention only when it is high. What is the *degree* of acidity in your chronics?

The lactic-acid bacillus makes good butter-milk, but it takes the Bulgarian bacillus for therapeutic effect.

Etiology suggests prophylaxis. Pathology

and symptomatology suggest treatment. And expectant treatment is a misnomer. Doctor, DO something.

Your patient will excuse your failure of diagnosis if only you get him well. Be on familiar terms with your *materia medica*.

Intestinal asepsis is an impossibility, but intestinal antiseptics goes a long way toward relief. Try out your chronics on this axiom.

Acute abdominal pain is spasmodic nine times out of ten. It has not existed long enough for inflammation to set in. Therefore morphine is not indicated. Give—hyoscine, hyoscyamine, atropine or glonoin.

If your patient shows decreased urinary solids, together with symptoms of poor elimination, boldine is the one drug that will increase output of solids. Other diuretics increase merely the watery element.

FRANK B. KIRBY.

Chicago, Ill.

THE NATIONAL ANTINARCOTIC BILL

The members of the Larimer (Colorado) County Medical Society sent the following letter to their representatives in the United States Senate.

FORT COLLINS, COLO., Nov. 15th, 1913.

Hon. Chas. S. Thomas, and Hon. John F. Shafroth,
United States Senators, Washington, D. C.

DEAR SIR: Some time ago the House of Representatives passed the Harrison Bill (H. B. 6282), which is now pending in the United States Senate. This bill was drafted by the National Drug Trades Conference and endorsed by 14 of the 15 members of that body. It carefully regulates the buying, selling, handling, dispensing, and administering of these agents, thereby guarding the interests of the individual and society, while at the same time leaving the physician free to dispense them when they are needed to relieve human suffering.

At the recent meeting of the National Association of Retail Druggists (Cincinnati, Aug. 25-29, 1913) a resolution was adopted to amend the Harrison Bill in such a way as to prevent or hamper the physician in dispensing or administering such remedies to his patients.

You are well enough acquainted with the isolated condition of a large part of our population and the long distances that many of them live from drug-stores or dispensing pharmacists to know that any restrictions placed on the physicians' right to use these remedies without having them dispensed by the druggist would not only work an injustice on every practicing physician, but would greatly increase the suffering of the sick and injured and cause the loss of many lives, especially in rural and sparsely settled portions of the country.

Then, too, it should not be forgotten that much of the uses and the demoralizing and deadly effects of these habit-forming narcotic remedies are directly due to physicians' prescriptions; these prescriptions are often [re-] filled by the druggist without the knowledge or sanction of the physician, or, in many cases, the patient seeing what has been

prescribed for him, buys the drug on his own initiative and soon becomes a drug-"fiend." Probably more than fifty percent of these saddest of all wrecks of our civilization have been made in that way. If the physician had quietly administered the remedy necessary for the occasion, without the patient knowing what he or she was taking, these wrecked lives would have been avoided.

In view of these facts, we, physicians of Larimer County, strongly oppose any amendment of the Harrison Bill, which will restrict the right of the physician to use these narcotic remedies in any way that he may believe to be for the best interests of his patients; and we hereby petition and request that you oppose any such amendment of H. B. 6282 and use every honorable effort to secure the passage of the bill as it was passed by the House of Representatives.

Thanking you in advance for your valuable assistance in securing this object and with sincere regard, we remain, very truly yours,

(Signed)

P. J. McHugh, Ex-President, Colorado State Medical Society; Geo. L. Hoel, President, Larimer County Medical Society; E. Stuver, Secretary, Larimer County Medical Society.
E. L. Sadler, W. A. Kickland, W. H. Winslow, T. C. Taylor, J. E. Dale, S. C. Halley, members, Larimer County Medical Society.

E. STUVER,

Secretary, Larimer County Medical Society.

[We have just returned from Washington, where we were in attendance upon another meeting of the National Drug Trade Conference, which represented all branches of the drug trade, as well as the A. M. A. Among the many important topics discussed was the Harrison Antinarcotic Bill, referred to in the letter (just quoted) addressed by the Larimer County Medical Society to the two senators from Colorado. The Conference, after carefully canvassing again all the objections to the bill, and making a few minor changes, none of which will affect the interests of the physician in the slightest, reasserted its allegiance to the measure.

The bill is a straightforward, intelligent effort to secure the abatement of a great evil. It should be passed, and passed at once. While it places a burden upon the medical profession this burden is not a heavy one, and we can not see any good reason why any physician in the country should withhold his support of it. Make your support *active*. Do not leave it for others to get behind it; get behind it yourself, and urge its passage. Write to your senators and tell them that *you* want this bill. Tell them that you want to see it passed at once, and that you and other members of the profession will object strenuously to having any amendments tacked on to it that will interfere with your rights as a physician. Read what the physicians of Larimer (Colorado) County have

said on this subject. Take the matter up at the next meeting of your society.

Now, Doctor, this is important. It is not a matter to be put off. Get your shoulder under this movement without delay.—Ed.]

IS THE DOCTOR LOSING PRESTIGE?

We think that the doctors have lost prestige in several ways, and for several reasons. The first cause of this loss is competition in its various forms. The numerous new cults, all claiming to heal the sick, draw heavily on the doctor's reputation and purse. The cults, to build themselves up, do all they can to pull the doctor down. To get his fees, they must offer something instead. They must convince the patron that they have something better; to do this, they must either have it or fool the patron.

Individually, I do not think any of the modern cultists has any advantage over the regular practitioner. I think the latter is better fitted, as a rule, to relieve suffering humanity than any or all the cults combined. Yet, what you or I think about it does not count, it is what the patron thinks that puts money in your pocket or the other fellow's.

The faker takes advantage of the credulity of the average patient. It seems that otherwise intelligent individuals are uninformed about disease; they accept a wordy diagnosis, accompanied by a few technical terms, as evidence of medical knowledge. To illustrate:

There was a certain wit in Kentucky who got off something like this:

"Doc (talking to me), I believe I'll study dentistry."

I asked, "Why?"

"Well," said he, "you know A and B and C?"

I said, "Yes, I am treating them for lacerated jaws."

"Well," said he, "this is what caused me to want to study dentistry. A, B, and C allow themselves to be butchered by a man calling himself a dentist, and they take it so kindly, and seeing (as I do) that it does not take a very smart man to get their money, I am thinking of studying dentistry myself."

Almost anyone that tries can get the money, and the money is a lever that moves most movable objects. If one is willing to sacrifice principle, he can get money from those who are afflicted. The drowning man grabs at a straw, and the cults are always willing and ready to furnish the straw.

Of course, this is not a story of recent origin. The quack has always been in evi-

dence, but he is more numerous and more ubiquitous now than formerly. I need not point out his special schemes, you are familiar with them.

I notice in our state organ, *The Missouri State Medical Journal*, an article by our colleague Doctor Boone, which calls attention to the fact that our associate and brother, the surgeon, does not always give us a square deal and that we have lost more or less prestige through the schemes of those who pose as surgeons, but who really are not. This is not new, either, but doubtless it often does injure the doctor.

One remedy is open to us for this. If the surgeon will not or can not do your surgery, you must learn to do it for yourself; but for the prestige lost by the schemes of the quacks there is no remedy. The dishonest schemer will always get more money than you—you might as well submit first as last, because this is inevitable. You *can not* and you *will not* sacrifice principle, and he will, and as fast as you show him up in one line he will adopt another. It is possibly not best to sit down and let the schemer run roughshod over you, but to undertake to expose him is an unthankful and unprofitable job.

The keen competition in legitimate practice is against the old doctor. Unless he is fullhanded, he cannot withstand it. The strain is too great. He may feel some chagrin in seeing the young and often incompetent doctor forge to the front, but he must recollect that in his young days he too was green and had to fight a hard battle to win.

The last question to which I would call attention is the cutting of fees. I know that it is unpleasant to sit idle in your office while the fee-cutter seems busy among your former patrons, and you may be tempted to "go and do likewise"—but, brother, do not yield. Two wrongs never make anything right. Do not sacrifice principle for money, because without principle there is no protection in any direction. If you cannot depend upon the honor of your colleagues, you are virtually ruined as a physician, and if you sacrifice your own honor, you cannot expect them to stand by you in the hour of need.

No—No—. If you must go to the wall, go down like a man. Failure is no disgrace if caused by unforeseen and uncontrollable circumstances. You can, possibly, recover from failure, but dishonor will follow you to your grave. Stand by your colors. Never allow yourself to do anything that will bring reproach upon your profession. To cut

prices, in my opinion, is wrong in principle. Let me give you another illustration.

Recently a member of the Maccabees said to me: "Doc, you would be \$50.00 ahead today if you had become our examiner."

I said, perhaps so; and asked who was the lucky man. He named Dr. John Doe, and I said, "Yes, I understand that Doctor Doe has broken over."

"Yes," said he, "and I understand that all the other doctors have broken over, too, and you ought to have yielded when I asked you, because you know that you can get more patronage in the lodge than out."

Here is how we lose patronage and prestige: we yield, and yield, and cut, and cut—cut each others' throats, until the price for our work is set by quacks and there is nothing left to the practice of medicine.

I for one do not intend to yield. If I go to the wall, which seems very likely, I shall go fighting for every inch of ground and shall charge legitimate prices for what I do, and if I can not make a living at the practice I shall quit and try something else. I will not be a pretender and cutthroat.

W. P. HOWLE.

Charleston, Mo.

THE TREATMENT OF DROPSY. VIN-EGAR HOT-PACKS

In the following I submit a brief record of two cases of general dropsy which came under my observation. The first case is that of a man of 79, who had been under various treatments for several months before I was called.

This man had dropsical swelling involving face, arms, legs, feet, hands, and genitals. His pulse, when he was first seen, was very feeble, irregular, and ran about 120 per minute. There was enormous distention of the abdomen, this extending to the penis and scrotum. He had uninterrupted dyspnea. On both legs, from thighs to knees, the skin was distended almost to bursting in two or three places; the distention involving also the palmar and dorsal surfaces of both hands, which he could close only with difficulty.

He had been unable to lie down on his back or undress and go to bed during the last seven months. All this time, night and day, he had been suffering from loss of sleep, lack of appetite, and great difficulty in passing water, which was scanty, high-colored, thick and stringy. The only repose he got was in a comfortable easy-chair; but his naps were interrupted every fifteen or twenty minutes,

having to arise frequently and have the windows opened for fresh air, because of the intense dyspneic attacks.

This serious condition, when I first reached his side, convinced me that his days were numbered, and could hold out but faint hope of any relief. After abdominal tapping, about two weeks before, my predecessor, I was informed, also had given up the patient.

As the patient's bowels had been much constipated, I gave him 10 grains of calomel, and directed that this be followed in a few hours by a large dose of magnesium sulphate. I gave instructions that, after the purgative had acted, he be given every three hours, day and night, half an ounce of gin, blended with raw egg, milk, and cream. This because of his exhaustions. Happily, his stomach tolerated this stimulant.

To improve the action of the kidneys, I left with him a supply of anasarcin, one tablet to be taken every four hours, night and day, for three days, then less often. The gin stimulant was to be kept up as needed and the epsom-salt purge to be repeated every third morning.

I made my second visit six days later and was both pleased and surprised to find a decided change for the better. The patient had been able to lie down on his back for an hour or more in the past two or three nights, securing at last refreshing, although intermittent, slumber. The urine was much clearer and passed more freely, although at my first visit urinating nearly caused him to collapse. Also, his pulse was fuller and stronger, and the rate was reduced to about 100 per minute.

I ordered the anasarcin to be given less frequently—one tablet morning, evening, and midnight. Of the gin, he was to be given, each day, one ounce in a part of the egg-mixture.

After the expiration of two weeks, improvement was proceeding without interruption. I now ordered the tablets to be taken only twice a day. I also put him on iodized calcium. Then, after another week, one anasarcin tablet was to be taken every night; also, moderate doses of tincture of chloride of iron after meals. As improvement continued, while withdrawing the alcoholic stimulant, the patient was put on a mixed diet embracing vegetables, chicken, beef-tea, and brown bread.

One month from my first visit the man's bowels and kidneys became quite normal; so I dropped the anasarcin. He rapidly regained health and strength, and at the end of two months took daily walks. When I

last saw him professionally, a few weeks later, he seemed in perfect health, outside of a little irregularity of the pulse, which, however, soon yielded to cactin. After another month, on his returning from a visit twenty miles from home, he assured me he was entirely free from any symptoms of his recent trouble; and he began to assist in the work on his farm. About six months after his complete recovery, I happened to meet him, when he assured me he was enjoying better health than at any time the past three years.

The other case is that of a little boy aged 19 months, who previous to my visit, early in September last, had been ill upward of two weeks. I found him suffering from a severe attack of bronchitis, with moist and crackling râles over both lungs; high fever, skin hot and dry; very rapid pulse. He had been very restless the past three or four nights, with hardly any sleep. The child's face was puffy and edematous and the abdomen distended. He had been passing but little water of late. Both kidneys proved to be very tender.

I staid over night and subjected the little fellow to the treatment described below; the nature of which has been published in two or three other medical journals.

Not to take up too much space, I will mention very briefly here that the method is more particularly useful in shortening the progress, and, in the majority of cases (when employed during the first twenty-four or thirty hours after the premonitory chills), in aborting attacks of acute disease of inflammatory as well as of zymotic character, together with convulsions, whether infantile, eclamptic, or from whatever cause.

Proceed as follows: In a wide pan, heat a quart of good home-made vinegar to the boiling-point, plunge one by one into the steaming liquid six or eight heated bricks, quickly take them out again, and as quickly wrap them in folds of woolen or flannel cloths, pouring over the latter what hot vinegar remains.

Now carefully arrange these bricks about the patient's body—above the shoulders and close to hips, thighs, and feet—being careful, though, to have the attendant slip her hand as often as requisite under the steaming-hot sheets of the bed covering, to make sure that none of the hot bricks touch the skin. (This little precaution of course is necessary.)

After being well enveloped in flannel sheets, let the patient—old or young, sthenic or asthenic—sweat at least two hours before removal. And such a profuse perspiration as is induced over the entire body is possible

otherwise only with pilocarpine, and that often is not safe in the very young or the aged; and frequently for hours afterward the skin remains moist.

There must be something in the acetic acid of the vinegar that so freely opens the pores. It may be advisable to remove the saturated blankets, but it is not absolutely requisite if the room be kept warm, well ventilated, and, of course, avoiding any draughts.

This method of elimination by the skin certainly acts like a charm; and, as already intimated in my paper in your issue of last January, it will control convulsions of every kind, even those arising from swallowing poisons; as has been well tested and proved during a practice extending over fifty years. I forgot to mention that in the case of young children one should break up the bricks into small pieces.

After the foregoing digression, let me proceed with my report. I used broken pieces of brick about the size of an egg (porous sand-stones will answer in case of emergency), and personally looked after the application. At the expiration of thirty or forty minutes, there appeared a profuse sweating; which set in at first—as often is the case—from head, neck, and face. In about two hours, welcome sleep supervened, this lasting some hours into the following morning.

I kept up counterirritation for the next two or three days over chest, front, back, and sides; also over the loins, alternating with mustard cataplasms as frequently as the child could bear them. In the course of another week, without the use of any expectorants, under anasarca—I 1-2 tablets dissolved in 4 ounces of a sweetened mixture and given in teaspoonful doses—rapid improvement followed. As convalescence advanced, this was replaced by iodized calcium, together with syrup of ferrous iodide thrice daily.

I feel quite confident, despite the length of time intervening—nearly a fortnight from the initial chills—before my first visit, that the free vinegar-sweat was the principal factor in the satisfactory results; modifying the severity of the attack, and, with the alterative tonics afterward, bringing about rapid recovery. I might here state, soon as patient is comfortably packed for the vinegar-sweating it is advisable to administer a cupful or more of hot lemonade or other warm drink containing a few drops of tincture capsicum.

In conclusion, let me here say, that, in all cases of nephritic dropsy associated with

scarlatina, this sweating-method is effectual, the same being repeated, if need be, and followed by tincture of iron chloride. In point of fact, almost every acute case of disease associated with chills, high fever, and rising temperature when seen within forty-eight hours of onset can be quickly aborted. In scarlet-fever it is often advisable to repeat the sweating process, after an interval of two or three days, followed up with chloride of iron tincture, with or without a little spirit of nitrous ether.

A. H. CHANDLER.

Cocagne, N. B., Can.

TRACHOMA TREATED WITH THE BACILLUS BULGARICUS

Being a general practitioner, naturally only a few cases of trachoma have come to me for treatment, and most of those that do come are immediately sent to a specialist for treatment. So, like most others in my line, I gave but little thought to the disease. However, one or two of my patients insisted that I treat them, saying that I could do as well as the other fellow and that they were not able to go to anyone else. This put me to thinking, and I read everything I could find on the subject and tried the different treatments recommended, with the result that, if there was any improvement at all, the patient would soon relapse and be as bad as ever.

The best information I could get from the latest and most up-to-date literature as to the etiology of the trouble was, that it was caused by a specific organism not yet isolated.

I next decided to look a little further into the treatment. I reasoned, since this was a germ disease and since the Bulgarian bacillus had proved such a friend to man in exterminating germs that are foreign to him, that it would seem reasonable to think that this malady might be treated with this same agent. Acting on this theory, I began treatment and secured what I considered extraordinary results.

Dorothy B., aged 8, had trachoma since she was two or three years of age and had been treated for two years by her grandfather, who was an excellent physician. After his death she fell into my hands. I tried to send the family to a specialist, but they would not go. I then proceeded to treat her as best I could.

I used copper sulphate every other day for almost a year, with practically no result. I

tried silver nitrate, bichloride of mercury, argyrol, protargol, and every other thing that I could find recommended; but all to no avail. Then I looked into the cause and treatment as above stated and decided to try the Bulgarian-bacillus tablets.

Accordingly, I reduced a small portion of a tablet to fine powder and turned the eyelid as if to burn with bluestone and put on the powder. Very much to my surprise, the little girl said that it did not hurt any. I informed the parents that it was an experiment with me and for them to apply the treatment twice daily for a while and report progress. Very much to our surprise, there were marked signs of improvement from the start.

The morning-blindness was soon gone, the photophobia all disappeared, the inflammation left the lids. The patient now reads by artificial light without any discomfort whatever, and one cannot tell by looking at her eyes that she ever had trachoma or any other eye trouble. She has been on this treatment for about two months and is still taking it, but will stop soon. Whether the trouble will return is more than I can say.

This is only one case, but the results were so gratifying that I thought I would report it, in the hope that others may try it and prove the value or nonvalue of it. I should be pleased to hear from others trying it or who have already tried it.

A. W. DAGGETT.

DuQuoin, Ill.

THE ETIOLOGY AND TREATMENT OF PELLAGRA

At the last Pellagra Conference, held in Spartanburg, South Carolina, as reported by the *Winnsboro News and Herald* of September 11, 1913, Dr. Ward J. McNeal, of the New York Postgraduate Hospital, and a member of the Pellagra Commission, made the following announcement:

"After two years of research by a corps of twenty scientists, the Thompson-McFadden Pellagra Commission is still ignorant of the cause of the disease."

Doctor McNeal summarized the findings of the Commission as follows:

"First, the supposition that the ingestion of good or spoiled maize is the essential cause of pellagra is not supported by our study.

"Second, pellagra is, in all probability, a specific infectious disease, communicable by means at present unknown.

"Third, we have discovered no evidence incriminating buffalo-gnats in the causation of pellagra. If it is distributed by a blood-sucking insect, the stable-fly would appear to be the most probable carrier.

"Fourth, we are inclined to regard intimate association in the household and the contamination of food with the excretions of pellagrins as possible modes of distribution of the disease. If you remove a pellagrin in the *early stages* of the disease from the endemic locality of the disease, put him in better surroundings and *give him plenty of good nourishing food, regardless of treatment, he will get well and stay well.*

"In view of the slight mortality from pellagra and the pessimistic feeling in regard to it, this should be a comforting thought to us. It should also be comforting that pellagra is not directly transmissible from one person to another."

I wish, next, to quote two sentences from my article, "Pellagra Cured by Dietetic Treatment," printed in *CLINICAL MEDICINE* for June, 1913:

"There is no drug cure for pellagra, but it is the most easily cured disease of which I know. The prevention of pellagra is easy, and this dreaded malady can be swept off the face of the earth simply by teaching people the right things to eat."

Compare those two sentences with the fourth statement of the Commission's findings. I am especially grateful for "Fourth." That states in plain language that pellagra is *chronic starvation* as regards protein; a claim that I have heretofore hesitated to make.

We have all been brought up to believe that omnivorous means, "*Can eat everything,*" but are now finding out that it ought to mean "*Must eat everything*"—the "*everything*" meaning *protein, fat, and carbohydrates in proper proportions*, than which there is nothing else to eat. Of course, these must be eaten in a balanced ration, if the best work is to be derived from the human machine.

But the Commission's "Fourth" suggests an endemic or an epidemic or a pandemic influence in "chronic starvation," which knows no climate nor country. An acquaintance with the work of the Germans on "the minimum daily requirement of albumin" in diet would save confusion in studying and legislating for the benefit of pellagrins.

It is not flattering to think that in America there are one hundred thousand or more persons who through poverty or ignorance, or both, are suffering from chronic starvation.

Be it right or wrong, it is a remarkably successful theory by which to be guided in caring for those subjects, as has been amply tested in the last ten years, although I should not have ventured to state the situation quite so plainly but for the "Fourth" of the Commission's findings.

The Germans have called fat and carbohydrates protein savers, but have also shown how far it is safe for these articles to be used for such purpose in the daily diet. They have also shown as much opportunity for a discriminating intelligence in prescribing proteins as is found in the use of rochelle, epsom or glauber salt, or of any combination of them in therapy.

Let us recall what involuntary experiments appear to have contributed to the solution of these questions. Some of them have been tremendous in extent, affecting millions of people. Recall the production of that double-first cousin of pellagra, i. e., the scurvy of the sailor and of the Arctic. Recall the rice diet of the Chinese and the diseases recognized as incident thereto. Recall the excessive protein diet of the English peoples, and how widely the usual resulting diseases differ from those peoples whose diet is deficient in protein; and now, the diet being changed to one of less protein content, pellagra is appearing among them.

Consider the vigor of the Japanese, their immunity against disease, the capacity shown by them to repair the most severe wounds received in war. Their diet includes soy beans, rich in protein, say, 28 percent, and gives them a nearly perfect balanced ration. Consider also the many patient experiments of the Germans, as narrated by Doctor Weintraub, of Weisbaden, which show that the *minimum* daily requirement in albumin for an average laboring man is about three ounces, if good health is to be maintained.

But when we asked why poor health resulted from diminished amounts of protein we had to await the investigations of Starling and Bayliss, the English physiologists, before we could understand that a proper amount of protein in the diet was necessary to maintain the normal action of the *liver*, upon which nearly all the great functions of the body are dependent.

Consider also the innumerable "tests" and futile "attempts" of our American patient microscopists and chemists to find the source of contagion in the spread of pellagra. Consider then how Doctor Lared ingested the acids resulting from the decomposition of fats, experimentally, with the consequent develop-

ment of the symptoms which I showed, at the Pellagra Conference held in Columbia four years ago, were the *early* symptoms in pellagra. Up to that time the symptoms of pellagra were not recognized.

As the time and facilities of that Conference were so seriously taxed, my paper was withdrawn and published by *The Charlotte Medical Journal*.

C. S. PIXLEY.

Winnsboro, South Carolina.

IN THESE DAYS

(Author unknown.)

Said a youth, in fashion dressed,
To the maid he loved the best,
"Oh, say the word and name the day when we two
shall be one!

I've a first-class pedigree—
There is royal blood in me—
And my father is a millionaire, and I'm his only
son."

Said the maiden, "All your wealth
Is as nothing, without health;
The blue blood that you boast of has for me but
small attraction;
If you want to marry me,
Some good doctor go and see,
And bring his written statement of your Wassermann reaction."

NOVEL UNGUENTIFORM OXYURICIDE: A NEW TREATMENT

Oxyuris vermicularis—the common pinworm—is one of the most troublesome intestinal parasites, and withal one of the most difficult to get rid of; the latter fact, not alone for the well-understood anatomical reasons, but principally because of the almost unbreakable vicious circle maintained by reinfection from the hands through the mouth.

Internally administered, anthelmintics act upon the pinworms very uncertainly, while enemata cannot completely dislodge them, by reason of the colonic plications. But for the latter fact, plain water irrigations alone would suffice, while even absolute cleanliness about the buttocks and of the hands and garments would effect a cure; indeed, Heinsberg himself saw a case where a badly infected victim became completely freed during the surgical cleanliness imposed, aided by the bandage covering, after an operation for hemorrhoids—the infectory cycle simply was broken and no new colonies were being originated. Hence, internal medication is not indispensable.

Starting from the foregoing premises, Doctor Heinsberg (Freiburg i. Br.) reasoned (following others) that, inasmuch as people

cannot be brought to carry out the rule of absolute personal cleanliness, at least moderate, enforceable, habits might be reenforced by means of some external regimen; and, so, he began to experiment in this direction. His success seems to have been most gratifying, if we accept statements, published in the *Muenchener Medizinische Wochenschrift* (1913, No. 3), by Dr. B. Hildebrand, of Freiburg, who took up this subject.

The idea, in a nutshell, is, to destroy any worms and eggs that may become deposited externally to the anus. Already ointments of mercury and silver nitrate had been suggested for this purpose, but Hildebrand found them too irritating and not at all reliable, while at best requiring a prolonged course. He then experimented with the vermicide thymol, finally arriving at an unguent which during the last two years in his hands has proven absolutely effective in even the most inveterate and obstinate cases of oxyuris infection. There must, of course, be accessory treatment.

Doctor Hildebrand does not publish the exact formula, but he names, as the active ingredients of this oxyuricide ointment, thymol, quinine, and camphor. (He calls it unguentum chinini camphoratum compositum, and a local apothecary markets it as a specialty under the name of "vermiculin.")

This inunction-treatment is simplicity itself. Every morning and evening the anus and the surrounding area—not neglecting the folds of the genital region—are thoroughly washed with one or two changes of warm water and soap, then wiped dry with a fresh clean cloth or some tissue-paper; then a little of the ointment—from pea- to cherry-size—is smeared all over the cleaned parts, especially about the anus. It is best to attend to this after the regular stools; but, at any rate, the operation must be repeated after each and every defecation, so as to be sure of destroying any worms and parasites coming outside.

That is all the direct treatment involved. In addition, though, the patient immediately must thoroughly clean hands and, especially, the finger-nails, with warm soap-suds and a nail-brush; which performance also is necessary before taking food or preparing any for the table. While the author does not so state, a slight inunction of the hands (fingertips particularly) ought to be helpful.

From two to three weeks of this procedure will effect a complete eradication of the oxyuris. Of course, frequent full baths, with soap and borax, besides changing the undergarments and bed-linen, would make assur-

ance doubly sure. Wearing of a bathing-trunk in bed also would be an aid to prevent the hands from becoming infested. To the foregoing we may add that, for the sake of "impressing the patient," internal medication need not be excluded, using any favorite vermifuge for the purpose; also prescribing wormwood or quassia enemas. Still, Heinsberg has confined himself to the thymol ointment for fully two years.

ABOUT VARIOUS THINGS—BUT MOSTLY THERAPY

Tonsillitis—that is a joke nowadays. Does any doctor have any trouble in treating this condition? I used to be a chronic, myself, with this, it laying me up quite often. No, I still have my tonsils, and they are not hypertrophied, either. I like the good fee for removing these glands, but I like the results and the praise from my treatment better. Here it is:

Thorough cleaning out, very spare diet, aconitine for fever, bryonin, atropine, and mercury biniodide every one-half to two hours. Cold applications to neck, peroxide as gargle, or no gargle at all—and results have never failed me in hundreds of various kinds of cases. Rheumatism complicating tonsillitis should have appropriate remedies. I consider colchicine, strontium, and lithium salts of value then.

I believe calcein is one of the best things in winter-coughs. Chronic bronchitis responds very rapidly. Dose enough. Sodoxylin does the work well in my hands in cases of auto-intoxication, but many people complain of the strong aromatics it is fixed up with. I give it quite often with saline laxative, half and half.

Somebody suggested agar-agar for constipation, advising eating a handful a day. Liking the theory advanced, I ordered some, and they sent it powdered and granular. I tried to see how a mouthful would act, and I had a hard time getting the glue-like stuff off my teeth. It made me laugh, so, thinking that I wouldn't be made fun of by my patient on that score, I sent the stuff back. Not ten days from then a lady came to me with a lot of it in a stringy form, saying her doctor, who is one of the surgical luminaries here, advised her eating it. I suggested her feeding it to the goats and placed in her hands a supply of agar lac, a proprietary that not only is easy to take but also is good in its action. [Doctor, if you had soaked that granular stuff in a little hot water, with a

little sugar and any convenient flavoring you would have found it a palatable "jelly," of real value in treating constipation. See Dr. Perry's article, this issue.—Ed.]

Not long ago I was out on a business trip about forty miles from nowhere. I always carry a few medical and surgical supplies along, looking for a chance call. It came this time, too, but I was not properly prepared. My fault.

The wife of a sawmill hand was trying to abort. I found the fetus grasped in the mouth of the cervix. After a hypodermic of hyoscine-morphine-cactoid and sterilizing my hands in a tin pan that was being used by all, I went up into that uterus. "Fool," you say? I thought so, too, but there was nothing to do but the best possible then and there, as the roads were too bad to get any place better within twenty hours.

After much work I got all I could with my fingers, but my nails were so short I could not use them as curette, and I was without one: so, I wrapped my fingers with sterile gauze and wiped out that uterus. Yes, that woman got well, and for pay I got a lot of promises. Why do so many of our worst cases happen with poor people and deadbeats?

How would you eye-men transpose a prescription for glasses like this: + 3.00 Sp. (I)–7.00 Cy. axis 180°. Give your rule. Yes, I proved it out O. K. Have you? Why does the law allow so many optometrists to be fitting people's eyes, when they overlook astigmatism in a big percentage of these cases?

Do you have any trouble with ammoniacal urine in children? Can worms cause this? What do you think about it?

F. E. McCANN.

Bozeman, Mont.

OUR LONDON LETTER

At the annual dinner of the London School of Tropical Medicine, it was announced that, as the result of a generous grant from the board of education and the remarkable success that had attended the appeal for funds made by Mr. Austen Chamberlain, M. P., the school had made a considerable advance. Mr. Chamberlain, in proposing the toast of the school, referred to the great advances made in the study of tropical medicine during the past twenty-five years. They had set out to obtain the sum of \$500,000 for the school, and they had received, so far, the not inconsiderable sum of \$350,000. They were devoting \$75,000 to extension of the buildings, the

staff of the school was being strengthened, and an endowment of \$9000 annually was being made by setting aside capital and by further sums contributed for that purpose.

The speaker was particularly touched by letters received from many tropical dependencies of the Crown in which the writers sent their humble contributions. There had been a most cordial response also from the tropical colonies to an appeal made by the colonial secretary. When the Federated Malay States were asked whether they would be willing to vote \$2500 of public money to the fund, they cabled that in view of the importance of the work to them the unofficial members of the fund had suggested making a grant of \$25,000. Because of the special efforts made by Mr. Austen Chamberlain, it was stated that one of the wards in the hospital would be named the Chamberlain ward. The dinner was made the occasion of a presentation to Sir Patrick Manson of two portraits of himself—one presumably to remain in the hospital and one for his own house.

A little girl twelve years old living in a village near Amiens, France, has been charming the lovers of the weird and occult by producing letters and words on her skin, in that way answering questions put to her. Her "occult" powers first came out when she showed her school-mistress a branch of a plant resembling mistletoe traced in red lines on her arm. She became a nine-days' wonder, to the edification of the faithful, the delight of the mystics, and, it is said, the bewilderment of the doctors.

But, alas! vaulting ambition doth o'erleap itself. Not content with her little Picardy audience, this prophet in her own country (surely, a *rara avis*) needs must go to Paris. At Paris she was investigated by a medical committee. Then, a member of this committee observing that the manifestation occurred only on regions of the girl's skin that could be reached with her right hand grabbed that hand and found concealed in it a hairpin. The thaumaturgic girl was a subject of dermatographia, an art she had learned to exploit ingeniously by scratching the skin with the hairpin.

In a previous letter I referred to the fact that, as a consequence of the resolution passed by the International Medical Congress in London last August urging upon the various governments the need of taking action to check the venereal peril, it had been an-

nounced that a royal commission would be established in Great Britain to give effect to this resolution. This commission was appointed by the King on October 28, the terms of reference being as follows:

"To inquire into the prevalence of venereal diseases in the United Kingdom, their effects upon the health of the community, and the means by which those effects can be alleviated or prevented, it being understood that no return to the policy or provisions of the Contagious Diseases Acts of 1864, 1866 or 1869 is to be regarded as falling within the scope of the inquiry." (The acts referred to ordered periodical inspection of prostitutes at certain naval and military stations. They were bitterly opposed and were subsequently repealed.)

The commission is constituted as follows: Lord Sydenham of Combe, the Rt. Hon. Sir David Brynmor Jones, Sir Kenelm E. Digby, Sir Almeric Fitzroy, Sir Malcolm Morris, Sir John Collie, M. D.; Arthur Newsholme, M. D.; Canon J. W. Horsley; Rev. J. Scott Lidgett; Frederick Mott, M. D., F. R. S.; Mrs. Scharlieb, M. D.; James Ernest Lane, F. R. C. S.; Philip Snowden, Mrs. Creighton, Mrs. Burgwin. Secretary, E. R. Forbes, of the Local Government Board.

It would have been difficult to frame a more representative commission. The ladies are all identified with social work. Of the lay members, all have had previous experience on royal commissions or have held public posts that afforded them special opportunities of obtaining first-hand information on the subject, while the medical members are exceptionally strong. It was Sir Malcolm Morris' letter to *The Times* that first set the ball rolling. Sir Malcolm, besides, has an international reputation as a dermatologist. Mr. Lane is senior surgeon to the London Lock Hospital, Doctor Mott is a noted alienist and Mrs. Scharlieb an eminent gynecologist, while Doctor Newsholme is chief medical officer to the Local Government Board and examiner in public health and preventive medicine both at Oxford and Cambridge.

The Insurance Act still continues to agitate the public mind. It is becoming clear to everybody that the actuarial estimate on which Lloyd George based his calculations as to the probable sickness incidence were grossly underrated—exactly as the medical profession contended at the time. One friendly society in the west of England reports that the accident and sickness benefit for the six months

ending July last was 24 percent in excess of the actuarial estimate and that for the nine months ending September a loss of \$50,000 had occurred to that society. And this is, by no means, an isolated instance.

The bitterness and rancor originally aroused by the act and sustained by the innumerable instances of the gross injustices constantly effected by its working, will hardly be lessened by Mr. George's cynical admission at Oxford, on November 22, as found in these words: "If you had had a plebiscite of the people on the Insurance Act when it was passing through the House of Commons, I believe it would probably have been thrown out." The most unscrupulous of all tyrannies is that of an autocratic bureaucracy evolved by a "representative" government—the while it lasts.

—“M.”

CLINICAL NOTES FROM BENNETT MEDICAL COLLEGE

Many a patient can be saved from undergoing a mastoid operation by the continuous application of ice in the mastoid ice-bag for three to six days. But the cold must be absolutely and uninterruptedly continuous until the inflammation subsides.

—S. S. Bishop.

Recurring tonsillitis is likely to be due to retained secretions or concretions in the crypts of the tonsils. These should be washed out, and a 10-percent solution of silver nitrate thoroughly applied. This failing, the electric cautery should be used in the crypts. If this treatment does not succeed, remove the tonsil.—S. S. Bishop.

The best way to remove cerumen from the ear, without injuring the tissues, is to fill the ear-canal with warm dioxide of hydrogen solution; wait until effervescence ceases; then syringe with two quarts of water as warm as can be borne comfortably.

—S. S. Bishop.

In treating fractures of the nasal bones, do not wait for the swelling to subside before attempting reduction.—C. W. Clark.

⚡ Operative treatment is contraindicated in:
(1) In fractures of the patella that occur in

diabetic patients; in those patients having advanced tuberculous disease; in patients suffering from well-developed cardiac, renal or hepatic disease. (2) In closed longitudinal fractures with no displacement or with but slight lateral displacement. (3) In all sub-aponeurotic fractures. (4) In all incomplete fractures. (5) In all patellar fractures in which the separation of the patellar fragments is so slight as to be barely detectable. (6) On patients who prefer to pass their lives partly disabled rather than to run the minimal dangers of an operation.—Heineck.

In varicocele of the veins of the spermatic cord, relief by operative means is indicated in all cases: (1) In which there coexists an inguinal hernia of the same side. (2) In which there coexists on the same side a hydrocele of the tunica vaginalis testis. (3) In which there is present on the same side an encysted hydrocele of the spermatic cord. (4) When associated with or dependent upon the presence of a tumor of the spermatic cord. (5) In which there has been an accidental or spontaneous rupture of one or more veins of the affected spermatic cord. (6) Having a history of recurrent attacks of phlebitis and thrombophlebitis. (7) That show more than a moderate degree of venous dilatation and tortuosity. (8) That are productive of neuralgic pain. (9) That are associated with nervous disturbances. (10) In which the nutrition of the testis is threatened.

—Heineck.

Every hernia of the fallopian tube, of the ovary, and of the tube and ovary, irrespective of anatomical site or of size, or of age of the bearer should be subjected to an operation for radical cure: (1) If the hernia be irreducible. (2) If the hernia be strangulated. (3) If the pedicle of the herniated organ or organs be the seat of torsion. After the age of two years operation is indicated (a) if the hernia be bilateral; (b) if other hernias be coexistent; (c) if the hernia cannot be painlessly, completely and permanently kept reduced; (d) if organs other than the uterine appendages be also present in the same hernia-sac; (e) if the wearing of a hernial truss causes pain or aggravates the symptoms; (f) if the patient has to be subjected to a general anesthesia for an operation of election; (g) if the patient is exposed to pregnancy.

—Heineck.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

DR. John B. Murphy was right when recently he said that internal medicine was more important than surgery, and that, if he were a medical student today, he would take up the specialty of internal medicine. Murphy is right in this, as he usually is in everything else.

Medicine has kept pace with the advances of surgery; in fact, surpassed them. Through its complete development, the germ-theory has ceased to be a mere working-hypothesis, but has become a demonstrated fact. The science of bacteriology, which came into existence, as the youngest of the biologic sciences, has accomplished more for medicine within four decades than all the other branches combined have been able to accomplish in four centuries; it has done away with speculation, and has for all time established experimental research as the final court of appeal. Only through medicine has surgery been able to make its most definite progress.

Therapeutics—the treatment of disease—has kept in touch with our knowledge of pathology. We have arrived at a more intelligent knowledge of drugs and their uses. We have thrown away hundreds of the old-time drugs and discovered new ones in their stead. But, most important of all, we have learned that the most potent remedy for good often is the one unused; have learned how to discriminate and divide up our work and give our patients the technical skill of the surgeon, oculist, aurist, laryngologist, neurologist, and other specialists, and also how to use nature's simplest remedies and accept fully the strongest thought of Hippocrates—the importance of climate and diet.

The new century gives us the cue to the medicine of the future, for it suggests that, since we know the true cause of disease, we should direct our efforts toward eliminating this cause and developing in our patient a power of resistance against it.

The secret of the future of medicine that is to give us ideal men and women, physical, mental, moral, is a true knowledge of child-life—a complete grasp of the rights and interests of the babe, not only from the beginning of its existence, but from, and even before, its conception; and if parents and physicians both do their duty it should be started right along the lines of nutrition, digestion and growth. Then, if no interruption be allowed in these important functions, no serious disease can follow.

Surely, the definite demonstration made by the worker in pediatrics, or the diseases of child-life, gives us a cue for the management of all classes of people, from the cradle to the grave; for men and women, no matter what their age, "are but children of a larger growth."

How far we have progressed! 'Tis but a few decades since the people in the grasp of pests had recourse to prayer and fasting, instead of properly directing their energies to the problems of personal, domestic, and municipal cleanliness. It seems incredible, too, that but short twenty-five years ago city-dwellers were engaged in drinking water from wells in close proximity to cesspools and sewers.

But, though much has been done, much still remains to do. Medicine of the future is preventive medicine. The best time to cure a disease is before it occurs. We are just beginning to know what sanitation and preventive medicine mean.

Thanks to the great alienists Pinel and Tuke, and others like them, patience, gentleness, and scientific treatment have taken the place of brutality and chains in the treatment of victims of disease of the brain. Now the insane, the feeble-minded, the deaf and the dumb and the blind are managed to their best advantage; and may we not hope that those other victims of degeneracy and disease,

the criminal classes, soon will be treated, cared for and cured rather than punished, and that our workhouses, jails and penitentiaries cease to be schools and breeders of crime?

Let us follow the advice of Dr. Norman Kerr. "Deal with the inebriate as we have successfully dealt with the maniac. Frown not on him as a hardened criminal. Remember he has fallen by the power of a physical agency which has crushed to earth some of the noblest and most gifted. Treat him as a patient laboring under a baffling and inveterate disease and amid many discouragements. Such a measure of success will follow our true curative treatment as will gladden our hearts as men, while it may attest our skill as physicians."

In line with this is the idea that in our institutions for the poor we should adopt methods and systems which will make the inmates useful, that we devise means whereby all but the incurables shall give service for service rendered and thus be rescued from the depressing consciousness that they are paupers.

What we have learned of tuberculosis alone, of the conditions which favor its spread, of the value, in this and other ailments, of fresh, clean air, sunshine, pure food, regular living, makes us look back to the very recent past, its fads, fallacies, quack-medicines, Christian science and other isms, with the same wonder with which we regard witchcraft and other superstitions of earlier ages.

A recent writer said that, if cleanliness be next to godliness, we surely are in need of sanctification and a new evangelist to preach the gospel of cleanliness and to inculcate the value of the ounce of prevention. The medical profession will continue to teach the people that cleanliness *is* godliness; that exercise not only means strength, but health; that nutrition is essential to growth; and that elimination, the ridding not only of our homes and cities of filth, but of our bodies as well, is essential to a successful life and a good moral character.

More legislation certainly is needed, and let us hope that it will be realized—that a department of public health will be organized, with headquarters at Washington, the head of which will be considered of at least as great importance as those who preside over the departments of agriculture, war, navy, money, and the postal service, and will be given a

seat in the President's cabinet; and that there will be branches of this department in every state as nearly related to the central government as the post-offices in the various states, resulting in the uniform control of matters affecting the health of the people and regulating those who preside over the health of the home.

Under such legislation the time will come soon when scurvy, ricketts, and consumption will be as rare as leprosy, while typhoid fever in an epidemic form will be a disgrace to a community and reflect individually upon the cleanliness of a family and impair their social status; when there will be such guarding of food-products that it will cease to be as much as one's life is worth to buy things at random for the table. As when (as has been said by Wingate) "a George E. Waring devotes his trained skill to improving health, he will be paid as much as the sheriff or police justice, and not 'turned down' at the next election or forced to eke out his meagre salary by the bounty of his friends;" when he dies as a hero and at the post of duty, guarding the armies of his country and the nation against yellow-fever, he will receive the honors of the soldier, a monument which will rank with that, surely, of men who are honored, not for having saved lives, but because they destroyed them.

More and more will the world know, in this coming century, that a sound mind in a sound body, properly equipped and well endowed to enjoy all the beauties of the world, is greater than the wealth of the Indies. More and more will we know that the laws of health are higher than the secrets of trade.

The duty of the State in guarding the people against epidemics, against typhoid fever and tuberculosis, against all preventable diseases, is definite and distinct; and let us believe that the time is come when the world, the State and society will appreciate the fearful danger which confronts them in the propagation of venereal diseases, and efficient measures will be taken to stop this scourge. The number of innocent victims increases daily, and a serious consideration is, that this corruption is penetrating into strata of society where formerly it was but rarely seen.

The time has arrived when physicians should throw aside all restraint when dealing with this question. Fathers, mothers, sisters, brothers, and all others should be informed, and this information should be in the plainest

language. The minister and the priest should aid the doctor in this praiseworthy undertaking. The doctrine should be inculcated into the young of both sexes that freedom from this awful syphilitic taint should exist before marriage could be thought of.

Upon this declaration rests the hope of the State as well as of families, for neither good soldiers, good citizens nor good husbands can be had with tainted blood. And tuberculosis should be included in this question, and we should brush aside maudlin sentimentality and false delicacy, if we would stop the spread of these sister scourges.

It is not honorable on the part of our sons to put themselves in a condition where they are a menace to those whom they marry, and we should explain to our daughters that they should avoid the man who is not a perfect specimen of physical, mental, and moral manhood, as they would avoid a demon or a deadly poison. We should insist that it is vulgar, indecent, and brutally unkind for anyone to marry who is not in perfect health.

The battle against disease and death can end only in relative failure if legislative action alone is to be relied upon. The great mass of the people must become willing and active helpers, and the fathers and mothers of the land must learn how to maintain the healthfulness of their homes, and the moral blindness of selfishness and ignorance must give way to the highest and purest aspirations.

The time is near at hand when the family or individuals will not wait until they are seriously ill before sending for their physician, but will carefully and thoughtfully select their medical adviser; and that not for his attractive personality, his prominence in church and secret societies, not because he is a trimmer and willing to walk their particular chalk line; but will be chosen for the reason that he is physically, mentally, and professionally well endowed, and he knows his business. After selecting such a one, he will be truly their medical counselor, and they will call upon him at regular intervals during the year to make proper examinations and take stock physically, as it were, and direct their habits of life to conserve their best health.

As the intelligent and conscientious attorney now has charge of his client's legal affairs, to help him avoid litigation and keep him out of court, so will the medical counselor of the

future guard his patients, help them to maintain health, conduct them along the lines of their physical wellbeing, so that they can do their best work and live long, useful lives, demonstrating in their results the truth that every individual born into the world, if properly looked after, should be a useful citizen of the State for not less than a hundred years.

When love is born in us, that is the birth of Christ. When love is born in us we get all goodness; so, anthropomorphically, on the twenty-fifth of December we receive presents from our friends. The spirit that is, or is supposed to be, behind those presents is high. The presents are too often low, so childish is the human family. There is strife rather than peace and good will over them. It is not maintained that if there had been no presents there would be no strife. There is something more. And that something is the birth of Christ in the heart. That is the real Christmas. It may not bring us all the *things* that the world calls good, but it will bring us joy, a joy that is higher than things, and unrelated to them.

OUR ANNUAL INDEX

According to our custom for several years past, we have not included in our December issue the annual index of the current year. Not only does this arrangement permit us to give a larger amount of reading matter to our subscribers, but it also gives us time to elaborate the index with greater care, thereby enabling us to present one which is well-nigh perfect when finally completed. The index, as now prepared, provides a veritable bibliography of the therapeutic literature of the year.

The index for 1913 is now practically complete, and we hope to have it ready for mailing by the time this number of *CLINICAL MEDICINE* reaches its readers. We consider it well-nigh indispensable, and we therefore urge every reader who desires a copy to let us know at once, by postcard. The index is supplied absolutely free, but we do not send it to every reader because of the very considerable expense which that would entail and the time required in getting it ready. However, we hope that very many of our readers will ask for it. If you want it, send the postcard at once.

Among the Books

HIRSCHMAN: "DISEASES OF THE RECTUM"

Handbook of Diseases of the Rectum. By Louis J. Hirschman, M. D., lecturer on rectal surgery, Detroit College of Medicine. Second edition, revised and rewritten. St. Louis: The C. V. Mosby Company. 1913. Price \$4.00.

We are not surprised to see this work by Hirschman so quickly passing into a second edition. It deserves it. It is, in fact, one of the best books that The Mosby Company puts out. Moreover, it has a distinct place in medical literature.

It is all very well for the general surgeon to assert and reassert that the rectum belongs in the pale of general surgery; the fact remains that general surgery is neither doing anything worth while in this branch of work nor telling us what may be done, and we are obliged to turn to the rectal specialist for information and progress in the subject. The truth is, if it had been left to the general surgeon, rectal surgery would still be a very crude affair. Its wonderful development we owe to men like Hirschman, and to books like the one we are considering.

Incidentally, we are glad to find that the author is such a strong advocate of local anesthesia for rectal work. This will tally with the personal experience of most of the readers of *CLINICAL MEDICINE*. We recommend Hirschman's excellent handbook to all general practitioners. They will find in it that which they cannot find in any general textbook of surgery.

STARR: "NERVOUS DISEASES"

Organic and Functional Nervous Diseases: A Textbook of Neurology. By M. Allen Starr, M. D., Sc. D., professor of neurology, Columbia University, New York. Fourth edition, thoroughly revised. New York and Philadelphia: Lea & Febiger. 1913. Price \$6.00.

The author has taken advantage of the demand for a new edition of his work to introduce a different and, in our opinion, improved

arrangement of the subject-matter, one that will prove of special advantage to the student of neurology. He has divided his matter into four sections. The first section sets forth the general aspects of neurology, together with methods of examination and diagnosis; the second deals with organic diseases in detail; the third, with functional diseases (so-called); the fourth discusses disorders of the sympathetic nervous system. The latter, by the way, is a phase of neurology lamentably neglected, if not positively ignored, in the majority of textbooks.

Thirty years of practice in diseases of the nervous system has brought to the author a large and varied experience, out of which he writes for the direct benefit of those who read his book. This personal viewpoint accounts for many of the author's conclusions that at first blush may seem a little more definite than the status of the subject would warrant. We are by no means disposed to criticize the work on this score; on the contrary, we believe it adds to its clinical value. The borderland character of nervous disease is fully recognized, and surgical methods of treatment are given their proper evaluation.

HERTZLER: "TUMORS"

Treatise on Tumors. By Arthur E. Hertzler, M. D., Ph. D., associate professor of surgery in the University of Kansas. Illustrated with 538 engravings and 8 plates. Philadelphia and New York: Lea & Febiger. 1912. Price \$7.00.

This is a subject which we have always with us. Presumably we shall never get to the end of classifying, reclassifying, and (as Kipling would say) tre-classifying tumors—at least, not until we know considerably more about them than we do at present. For the time being, about the only classification we can attempt of tumors is a clinical one; and that is continually shifting, as our meagre knowledge of their nature and etiology undergoes real or fancied progress. After all, that is, for the present, the most important aspect of the subject. To be able to recognize tumors properly, and thus to exercise

good judgment as to their prognosis and treatment—that is the paramount necessity of the practitioner, no less than of the surgeon.

And this is what Hertzler's book is designed to teach, and with considerable exhaustiveness. It is an excellent work, and shows large preparation and careful work. There are, of course, two phases of tumor pathology and diagnosis: namely, that which pertains to the tumor itself, and that which concerns the regional relationships of the neoplasm. Both of these phases are given adequate consideration in Hertzler's treatise. The illustrations constitute an important part of its didactic value.

BROWNING AND MCKENZIE:
"SYPHILIS"

Recent Methods in the Diagnosis and Treatment of Syphilis. By Carl H. Browning, M. D., of the University of Glasgow; and Ivy McKenzie, M. A., B. Sc., of the Western Asylums' Research Institute, Glasgow. Philadelphia and New York: Lea & Febiger. 1912. Price \$2.50.

Since the demonstration of the specific organism of syphilis in 1905 and the discovery of the serum reaction by Wassermann in 1906, the map of syphilis has undergone a complete change, both in its diagnostic and in its therapeutic aspects, to which the introduction of salvarsan by Ehrlich in 1909 has contributed an important factor. Naturally, there has grown up, in that period—and there still is growing—a mass of literature around these new conceptions of the subject, of an original, experimental character. Hence, every contribution to this sort of literature, provided it be earnest and genuine, must be heartily welcomed, as helping to clear the way to a definite understanding of the true status of affairs.

The book under review is one of the most thorough and the best-ordered of all the reports we thus far have seen—at least in the English language—upon the new pathology, diagnostic and therapeutics of syphilis. Not an inch of the ground has been overlooked, not a difficulty sidestepped. The authors must have made an exceedingly thorough search of all the available literature on the subject, in addition to doing a large amount of research and experimental work on their own account. Most invaluable conclusions are reached in regard to the salvarsan treatment of the disease.

The book is one which the reviewer can not well summarize or can even quote from with

any degree of satisfaction. It must be read in whole in order to be appreciated. It is well worth such reading.

DEAVER: "APPENDICITIS"

Appendicitis: Its Diagnosis and Treatment. By John B. Deaver, M. D., Sc. D., professor of surgery, University of Pennsylvania. Fourth edition, thoroughly revised. P. Blakiston's Son & Co., Philadelphia: 1913. Price \$4.00.

The brief title, as cited above, gives but a poor idea of the scope and nature of this classical work. For, this treatise deals with every conceivable phase and aspect of the appendix and its diseases, including history, anatomy, clinical etiology, pathology, symptomatology, diagnosis, prognosis, treatment, operative technic, complications and sequels of disease, and much more, and all in the thorough, masterful fashion that is characteristic of the distinguished author.

The recent advances in our knowledge of peritonitis in general, and of appendical peritonitis in particular, have made necessary an entire revision of virtually all of the various phases of the subject; and each has, in this last edition, been brought into harmony with present prevailing views. The section on pathology in the previous edition was from the pen of the late A. O. J. Kelley, and Doctor Deaver states in his preface that he has aimed to make as little change in this section as possible; however, accuracy in a work of this kind must always transcend sentimental regard for departed authorities, and no one will quarrel with the author for having made whatever alterations and additions he may have found necessary in Kelly's work.

We heartily commend the evident determination with which the practical, clinical aspects of the subject have been kept in mind, and the injection into the work of the author's personal element. These things certainly greatly enhance the value of the book.

JONES: "MEDICAL ELECTRICITY"

Medical Electricity: A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M. A., M. D., of St. Bartholomew's Hospital. Sixth Edition. Philadelphia: P. Blakiston's Sons & Co. 1913. Price \$4.00.

There is a marked difference between this edition of this book and the previous one. In the interval that has elapsed there has been a correspondingly noticeable change in the status of medical electricity; which, as we

all know, has been slowly, but surely, "finding itself" and has gradually swung into its proper place in therapeutics. Principally there has been a marked clearing up of the former confused ideas concerning the mode of action of electricity upon the body; we have abandoned the many wild and extravagant theories which for several years invested the subject with almost a garb of charlatanry, and have at last settled down to a very quiet, rational interpretation of electrotherapeutics.

It is now pretty well agreed that electrical action, so far as the body is concerned, is all resolvable into ionic or thermal effects. Usually these are combined in our various procedures; and upon this very reasonable basis the author now constructs a definite and practicable system of electrotherapy, one that is sure to appeal to the most scientific and conservative among us.

Radiography does not receive any extensive treatment, the author being of opinion that this subject has become altogether too large to admit of adequate consideration in a volume of this size and scope; but expresses the hope that "sufficient has been given to lead beginners to the stage at which special works must be called for." Altogether, the book is characteristically English, which means that it is conservative, clear, and practical.

"INTERNATIONAL CLINICS"

International Clinics. A quarterly of illustrated clinical lectures and original articles. Edited by Henry W. Cattell, A. M., M. D. Series xxiii, Volumes I and 2. Philadelphia and London: The J. B. Lippincott Company. 1913. Price, per volume, \$2.00.

As a rule it is a rather invidious thing to attempt to select from a work of the kind under consideration any specific portion for commendation over the other contents of a book. In the case of the first volume of the present series, however, we are confronted by no such embarrassment. The editor's review of medical progress during 1913 is easily the *pièce de résistance* of this volume. It is a capital résumé of all that was "doing" in medical science and practice throughout the year, selected and presented with excellent discrimination. For the rest, we should be tempted to pick out the articles on psychological and mental subjects as offering, perhaps, the most interesting reading. However, it is all good and useful stuff.

Volume 2 is full of equally excellent matter, among which we may, perhaps, be permitted to make special mention of a most timely

article on the therapeutic indication for anti-toxins, serums, and vaccines. There also are in this volume two interesting and instructive reviews, one on the past year's fracture work at the University of Pennsylvania dispensary hospital, the other on the medical application of radioactive elements. These are illustrative of the thorough fashion in which the editor and collaborators of this series of reviews are keeping pace with the progress of modern medicine and presenting it for the benefit of their subscribers.

HOOKER: "CHLORIDE OF LIME IN [SANITATION]"

Chloride of Lime in Sanitation. By Albert H. Hooker, Technical Director, Hooker Electrochemical Company. New York: John Wiley & Sons. 1913.

A method of water purification which has really revolutionized our method of preventing the dissemination of disease through water supplies was hit upon in 1908 by Mr. T. A. Johnson, of New York City, who was called upon to remedy serious trouble in the purification of the water used in the care of livestock at the Chicago stockyards.

Under legal pressure a method had to be devised for purifying the water of that malodorous stream, Bubbly Creek. This water had been filtered and used to water stock, but was still loaded with bacteria and was considered dangerous to the health of the animals using it. Happily, Mr. Johnson hit upon the idea of treating this water with calcium hypochlorite, or, as it is commonly called, chloride of lime. He was surprised to find that even when this chemical was used in exceedingly minute quantities it destroyed the bacteria and actually rendered this Bubbly Creek water more safely potable than that used by the human residents of the city.

Since Mr. Johnson's discovery, this method of treating drinking waters has been adopted by many of the largest cities in the country. For instance, the water of New York City, Cleveland, Cincinnati, Minneapolis, Des Moines, Jersey City, and hundreds of other communities, is now being treated with hypochlorite. By the use of this substance epidemics of typhoid fever have been repeatedly brought to an end. The quantity of chloride of lime required has been found to be exceedingly small, so small in fact that free chlorine is never detectable in the water, and its taste and odor are unaffected.

While different cities use different quantities of the hypochlorite, the average is ap-

proximately that used in the Croton Reservoir for New York City, this quantity being about 16 pounds per million gallons of water. In other words, to quote one of the statements in Mr. Hooker's book, "Three grains of a practically harmless substance will kill the myriads of germs contained in a barrel of water."

Chloride of lime can be used not only in treating the city water supplies, but it may also be employed for private supplies. It has become, therefore, a most powerful means of preventing disease, and not typhoid fever alone, since according to the well-known Hazen theorem, the mortality from typhoid fever is directly proportionate to that from other diseases. Thus, our efforts to arrest the spread of typhoid fever prevent disease generally.

The importance of chloride of lime in sanitation in the light of these facts becomes very apparent. Certainly every physician should be familiar with this commonplace and inexpensive substance and should be prepared to use it where the drinking water is of doubtful quality. We earnestly advise the purchase of Mr. Hooker's book, which contains an enormous fund of information of vital importance to physicians in general and health officers in particular.

SCHROEDER: "INSURANCE MEDICINE"

Insurance Medicine. Suggestions to Medical Examiners. By Henry H. Schroeder, M. D., Medical Director of the New York Mutual Life Insurance Company. New York: Wm. Wood & Co. 1913. Price \$2.00.

This little book represents the reprinting, in volume form, of a series of articles from the author's pen which were originally published in *The Medical Record*. The purpose of the author is a very praiseworthy and timely one. It has been for some years an open secret that the relations between the insurance companies and the medical examiners in the field have been, to say the least, somewhat strained—and that, not merely upon questions of fee, but as between the home medical departments and the field men themselves upon questions of prognosis and risk. It was with the object of eliminating some of these differences and of drawing the two departments into closer understanding that Dr. Schroeder contributed these articles to *The Medical Record*, and now publishes them in book form.

Presumably almost every medical practitioner becomes, at some time or other, an examiner for life insurance risk; and it is

much more than presumable, it is quite certain, that in performing this function he finds himself confronted with a totally different problem than that which faces him in the ordinary professional examination of his own patient. Unquestionably the greater part of the misunderstanding referred to results from this unsophistication on the part of the physician in insurance examination and prognosis. Dr. Schroeder has made the way very plain for him in this little book; and we earnestly recommend that every physician possess himself of it as a working exegesis, a field-manual, to guide him in insurance practice.

OTT: "A TEXTBOOK OF PHYSIOLOGY"

A Textbook of Physiology. By Isaac Ott, A. M., M. D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. Fourth Edition, revised and enlarged. F. A. Davis Company, Philadelphia. 1913. Price \$3.50.

Perhaps there is no one of the medical sciences which presents such a continual state of flux as does physiology. Indeed, together with pathology, it may be said to constitute the determining factor in the marvellous advance made in recent years in the whole science and practice of medicine. This mobile quality imposes upon the author of a textbook on the subject a two-fold difficulty—that of keeping pace with the swift advances made from year to year by physiologic research, and at the same time of holding down his text to the reasonable limitations of the students' capacity without omitting any essential points. No doubt the conscientious author feels the second half of the task to be harder than the first. The first, at all events, is merely a matter of labor; the second demands discrimination and judgment.

It is in this discriminative faculty that Doctor Ott's book excels. Its chief title to commendation lies in its avoidance of that tendency to cumbersome, overwhelming *bulk* which unfortunately characterizes so many otherwise excellent textbooks of physiology in these days, and which simply bewilders and paralyzes the student. Without sacrificing anything essential in the advance of the subject, Doctor Ott has wisely trimmed the enormous mass of data down to manageable dimensions, and arranged them in orderly fashion, so that the student, instead of being oppressed by the bigness of the subject, is attracted by its clearness. We predict that medical schools will come back more generally to this epitomized, discriminative type of book.

Condensed Quizzes Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERY 5970.—“The Noguchi and Wassermann Tests for Syphilis.” C. B. M., Missouri, asks, “Is there a preparation that is rubbed upon the skin, to diagnose syphilis?”

To the best of our knowledge, the existence of syphilis cannot be revealed by merely “rubbing” any substance upon the skin. Mercurial inunctions are used considerably for their remedial effect, but, of course, could not be considered diagnostic, except through the improvement likely to follow in syphilitic cases.

It is well to remember that syphilis is distinctly a disease of stages, which may be divided as follows: (1) Exposure. (2) Incubation. (3) First stage, that of initial lesion (chancre). If a chancre exists, the individual is syphilitic. (4) A second period of quiescence. (5) The second stage, appearing at any time from three weeks to six months after the initial lesion, or it may never appear, or appear but not be noticed. (6) The third period of quiescence follows. Then (7) tertiary symptoms manifest themselves, destructive changes taking place in various tissues of the body.

Where the existence of lues is suspected and not definitely known, a Wassermann or Noguchi skin test may be made.

Luetin, an emulsion of killed spirochetæ pallidæ, is injected into the skin and produces a reaction indicating the presence of lues. This (the Noguchi) though not as definite, is a more simple test than the Wassermann.

A Wassermann test must be made for you. If you can obtain a supply of luetin (which we doubt), you can make the injection yourself. Merely sterilize the skin of the upper arm with an alcoholic solution of corrosive sublimate, then inject 0.05 Cc. intradermically. If the injection is properly given, the epidermic layer is raised in the form of a bleb. Reaction develops in from twenty-four to forty-eight hours. It may be papular, pustular or “torpid,” the original macula fading in three or four days, to reappear in pustule form ten days later. Negative reac-

tions fade in one or two days; positive ones disappear in from a week to ten days.

Bear in mind that secondary cases that are or have been under mercury or in which clinical signs of syphilis are absent may show a severe reaction; in tertiary and hereditary forms, the reaction is strikingly positive.

The correct technic for collection and preparation of serum for the Wassermann test is as follows: With a sterile syringe withdraw from the median basilic vein 5 or 6 Cc. of blood. Place this in the test tube and replace the cotton stopper. Set away in a slanting position until the blood has clotted. If you slant the test tube at an angle of about 45 degrees, the clot will adhere to the side of the tube, the serum collecting at the bottom.

Now with a sterile syringe withdraw enough of the clear serum to fill a small ampule. This serum must be free from red blood-corpuscles and must not be tinged with hemoglobin; it should be clear yellow serum. Then, instead of replacing the cotton in the narrow neck of the ampule, simply hold the end of this narrow neck in the flame of an alcohol-lamp or gas jet and seal it. As soon as the tip of the ampule has melted sufficiently thoroughly to seal it, place the ampule in a mailing-case and dispatch to the laboratory at once.

If the patient has been under treatment, it is advisable not to make a test during this period; otherwise, even if the patient has lues, the reaction will be negative. Therefore, if you wish to determine whether or not the patient is cured, it is necessary to withhold all antisyphilitic treatment for four or six weeks before sending the serum for a test.

QUERY 5971.—“Paraffin-Injection Treatment of Hernia.” N. J. H., Nebraska, has read a little about and seen more of paraffin injection for rupture, and has continuously observed some individuals who have received this treatment. Now he wishes to learn more about this method and to be referred to someone able to explain the full technic.

In reply, this writer will say that he has had opportunity to observe the procedure of two of the most successful advertising "specialists" treating rupture by the paraffin-injection method, and is constrained to believe that the disadvantages of the method materially outweigh its good points. In certain carefully selected cases, a really skilful operator may, perhaps, do satisfactory work, and without question there are hundreds of men doing manual labor throughout the country today who have been "cured" of their hernias by the injection of paraffin. But even so, the fact that a foreign body is encysted in the tissues and may at any time cause trouble must not be lost sight of.

The operation when performed by an inexperienced or careless physician is an extremely dangerous one. More than one death from thrombosis has occurred on the table or shortly after injection. Gangrene or paralysis of the extremities has been observed in several instances, while, as doubtless you are aware, a number of individuals have been compelled to apply to surgeons for the removal of the mass of paraffin, which, having become displaced, has caused intense pain and discomfort.

The originator of the method that possesses the most merit experimented for several years endeavoring to perfect a special syringe, and he now injects a sterile modified paraffin at a definite temperature. This writer has watched him work on several occasions and, although there followed some unsatisfactory experiences, this man has been successful in the majority of cases. It is hardly to be expected, under the circumstances, that he will reveal his "full technic." At any rate, in these days, when any hernia can be so quickly and positively cured by operation, we should hesitate a very long time before injecting paraffin.

QUERY 5972.—"Wanted: A Bacterin for Adenitis." B. C. B., South Dakota, wishes to know what bacterin would prove curative in an adenitis of the salivary and cervical glands which resists regular treatment. "The glands," he writes, "are very hard and show no tendency to suppurate. They are not tuberculous and came on following a severe attack of tonsillitis. I have several such obstinate cases among young children, but who apparently suffer no constitutional effects."

As you can readily understand, doctor, before we can recommend a bacterin for use in adenitis of the salivary and cervical glands,

we must be able to identify the infecting microorganisms.

It would be well to examine the nose and throat very carefully; the tonsils should receive particular attention, and if there are any crypts a specimen of the contained material should be forwarded to the pathologist. In many cases, adenoids exist; and always the fauces, pharynx, and tonsils are important channels of infection. It must not be forgotten that adenoids are not always readily discovered; hence, the nasopharynx must be carefully explored.

Usually in simple nonsuppurative adenitis, the inflammatory condition is incited by the absorption of staphylococci or streptococci; occasionally the micrococcus catarrhalis and the pneumococcus are responsible.

Chronic adenitis consists in a simple hyperplasia of the lymph-nodes. It is rarely observed after the fifth year; the most frequent subject being children of the lymphatic diathesis. The glands upon both sides of the neck are usually involved, and more often a group than a single gland. The degree of swelling is not great. There is no pain or constitutional symptoms. Tendency to suppuration or caseation is entirely absent. Almost invariably hypertrophy of the tonsils or adenoids, or even both, is present.

Little or no benefit results from local applications. As we have already pointed out, the causative condition should be looked for and discovered. Syphilis and tuberculosis should, of course, be excluded.

Under the circumstances, it is not likely that any bacterin will prove beneficial. Removal of adenoids or hypertrophied tonsils and exhibition of antiscorbutic remedies with arsenic iodide in comparatively full doses as alternant would probably cause the prompt disappearance of the indurations.

QUERY 5973.—"Onychosis?" O. L., New York, has under treatment a patient presenting a "syphilitic lesion and breaking down of the finger-nails which defies all ordinary treatment." He desires "a plan of treatment, both local and constitutional."

We regret that you did not give us a clearer idea of the conditions you have to contend with; you simply speak of a "syphilitic lesion with breaking down of the finger-nails."

Now, there may be no connection whatever between the luetic taint and the nail disorder, although atrophic nail changes have followed the continued use of mercury or iodine. Sometimes scleronychia is observed in syphilitic individuals, when the nails become thick-

ened, inelastic, hard, rough, and of a yellowish-gray color; also longitudinal furrows appear, and there is chipping or breaking of the anterior border. Also, onychosis frequently is of syphilitic origin; in which cases arsenic iodide internally or liquor arsenii compound (Barclay), alternated with calx iodata, will prove beneficial.

However, doctor, before venturing more definite therapeutic suggestions, we should like to have clearer clinical data. State the age of the patient, length of time he has been syphilitic, and character of treatment; describe carefully the condition of the nails at the present time.

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QUERY 5974.—"Rodent Ulcer in the Buccal Cavity." H. C. S., Nebraska, writes, "Today there came into my office, a woman presenting a suspicious-looking growth, of about the size of a nickel, on the inside of her mouth. It is in front between the tongue and alveolar process of the lower jaw, looks raised and swollen, and it has been there over a year. Another doctor has been treating this patient for six months, who cauterized three times a week; but it was getting worse. I am mailing a few small specimens, preserved in dilute formalin, and wish you would tell me whether the growth is malignant or not, also make suggestions as to treatment. Would excision effect a cure or would the cautery be advisable?"

You have to do with a rodent ulcer. As you are aware, the special characteristic of this type is its steadily progressive spread. The margin is little, if any, elevated; or, as Stelwagon puts it, "the ulcerating feature is conspicuous, whereas the new-growth element is almost nil."

Rodent ulcer is seldom observed in the buccal cavity, being rather a disease of the upper half of the face, especially frequent about the eyelids and the sides of the nose. *Ulcus rodens* may prove extremely destructive, extending deeply down as well as laterally. There is always the possibility of final glandular involvement and a change of type into a deep-seated, or papillary, variety of the disease.

You will readily understand, of course, that it is not an easy matter to use caustics effectively upon a lesion situated as you describe, between the tongue and alveolar process of the lower jaw. Still, it is very essential that the epitheliomatous tissue be thoroughly destroyed or otherwise removed. The surgeon would operate, while the dermatologist as a rule favors the use of caustics.

Electrolysis must be thought of—the small flat copper plate to be applied directly to the growth, using a current of from 5 to 20 milliamperes. The x-ray and the Finsen light also are advocated. The x-ray at the present moment probably is most in vogue; but the present writer regards it more as a supplementary measure. If the Finsen light is available, you might try it. Of course, you will have some difficulty in treating the affected area with either the x-ray or the Finsen light.

In this instance, it might be well to curette the area thoroughly and then apply caustic potassa. Arsenic pastes and pyrogallol are out of the question here, of course. Thorough excision of the ulcer, saturation of the patient with arsenic (alternating the triple arsenates with calx iodata and arsenic iodide, week and week about), and the application of equal parts of thuja and echinacea, on a cotton swab, to the affected area would, we believe, prove the best procedure.

Galvanocautery has been used, but the operation necessarily is painful (if thoroughly done) and the results certainly are not as satisfactory as those to be secured by thorough excision.

It might be well, however, to examine the girl carefully for syphilis, even though all circumstances would seem to exclude such a possibility. You do not describe the lesion fully enough to enable us to discuss the matter very intelligently, and the examination of a section would not enable us definitely to exclude syphilis. The location of this ulcer is rather peculiar, and a careful study should be made of it.

The aphthous ulcer generally shows as a yellowish erosion; still, an eroded mucous patch may have the same appearance. This writer has seen an ulcerated patch on either side of the frenum destroyed under a course of potassium iodide and careful painting of the ulcer with a 2-percent bichloride of mercury solution. Before operating, it might be well to try these procedures.

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QUERY 5975.—"Umbilical Angioma." J. Z., Indiana, has under care a girl baby of 18 months who since birth has had a nevus or angioma of the umbilicus; it is gradually getting larger, and now resembles a ripe cherry and bleeds readily on being touched. The Doctor asks whether sodium-ethylate solution could safely be used here for cauterizing.

We should hesitate a long time before using any caustics whatever in a case like

this, and for various reasons. Tumors of the umbilicus, we need not point out, are not uncommon, and are usually of an inflammatory type—the granulomata of infancy and the papillary fibromata. The granuloma is sometimes called an umbilical fungus. It is absolutely necessary to distinguish it from an enteroteratoma, which latter is covered with mucous membrane.

Simple granuloma may be cured by cleansing with boric-acid solution or other mild antiseptic and then touching with silver nitrate; or, it may be removed with scissors and the wound dressed with dry gauze, moderate pressure being made to control oozing. Enterotomas require very careful removal. Connective-tissue tumors of the umbilicus are rare, especially the nonmalignant forms. Dermoid and sebaceous cysts can easily be removed under local anesthesia.

The main thing in the present case is, to be pretty sure of the character of the tumor. Capillary angioma, of course, may be treated with sodium-ethylate solution or carbon-dioxide snow. Cavernous tumors may be excised or destroyed by means of electrolysis or carbon-dioxide snow. Cirroid aneurysms, however, must be removed by careful and wide dissection. The case in hand evidently is not a capillary nevus, while, further, cavernous tumors are not found about the umbilicus; on the whole, we are inclined to believe that surgical procedure is called for here. Meantime, please note carefully the character of the tumor and the nature of its base, and report with greatest possible detail.

QUERY 5976.—“Action and Dosage of Coniine (Cicutine).” H. L. G., Illinois, impressed by our advice to give coniine to effect (watching results carefully), asks what amount can be taken daily with safety in a case of tremors, or paralysis agitans?

The predominant action of cicutine, it must be remembered, is paralyzant, at first of the extremities, then of the trunks of the motor nerves. The voluntary muscles are involved first, then those of respiration, next of the left heart, then the diaphragm; and finally fatal results may occur from asphyxia, the preceding dyspnea being accompanied by clonic spasms. If forced respiration is instituted, the action of the heart remains unaffected for a long period. Consciousness persists to the end.

Full doses of cicutine may produce vertigo, malaise, dilated pupils, tremors, weakness of the extremities and uncertain, vacillating gait. The rapidity of the pulse is first in-

creased, then rapidly becomes small and weak.

In moderate doses, cicutine causes tendency to repose or even slumber, softening of the pulse, diuresis, and diaphoresis.

Burggraave, who observed its action carefully, states: “It calms sensibility and contractility, regulates the circulation; the intravascular pressure and the animal heat are increased slightly; the respiratory mechanism is not disturbed.

Dosage necessarily will depend upon conditions present and the effect one desires to produce. For instance: in strychnine poisoning, coniine should be pushed boldly; in whooping-cough, minute repeated doses are indicated. The drug is indicated, of course, in paralysis agitans and in all nervous hyperesthesias, in chorea, convulsions, tremblings, and wherever it is desirable to sedate the motor nerves and control spinal irritability and exultation of the reflex excitability.

Frequently it is essential first of all to correct the autotoxemia present. Bear in mind that the drug is rapidly eliminated, and for that reason it is advisable to push its administration until relief follows, or to the first signs of drug sufficiency.

QUERY 5977.—“Diffuse Chloasma.” H. M., Illinois, requests an effective treatment for brown skin covering arm and body. The discoloration he describes as a “fright,” and is of about two years’ standing. There is no eczema, no itching, nor annoyance. The patient is aged 25 years, the mother of one child, two years old; her health apparently is perfect.

It is really impossible—as upon reflection you can understand—to prescribe definitely for your patient afflicted with this diffuse chloasma. Treatment necessarily depends, in all cases of this kind, upon the etiologic factors. When the patches appear on the trunk, extremities, and so on, they are, as a rule, the result of some external agency, and only local treatment can possibly prove effective. The first thing to decide, therefore, is, whether you are dealing with the idiopathic or the symptomatic variety.

As the discoloration in question has existed for about two years and the one child of the woman is two years old, it probably is chloasma uterinum. However, this variety usually appears on the face, the forehead being the favorite site. In some instances, patches break out also on the breast, abdomen, and other parts. Usually this trouble is seen in women between the ages of twenty-

five and fifty; rarely in those younger; seldom after the climacteric.

Anemia, chlorosis, chronic indigestion, neurasthenia, nervous shocks or hepatic disorders may cause chloasma. We must not forget that the condition frequently follows the administration of arsenic.

Stelwagon claims that the pathologic process underlying chloasma is merely an accentuation in the physiologic pigment and apparently is under the control of nervous system. Recent observers call attention to the possibility of disease of the suprarenal glands occasionally being causative.

As a matter of fact, the disorder is pathologically similar to freckles: in the latter condition, we have a circumscribed deposit, while in chloasma it is patchy or diffused.

Chloasma uterinum usually is persistent. In those persistent cases in which no evident factor can be discovered, ovarian irritation or some disease of the uterus is to be suspected. For this reason, we suggest that you make a very thorough examination of your patient, paying particular attention to the pelvic organs.

The external treatment has been outlined by us in CLINICAL MEDICINE two or three times. Corrosive sublimate, hydrogen peroxide, lactic acid or an ointment containing white precipitate and bismuth subnitrate may be applied until exfoliation is secured. Solutions of corrosive sublimate should be applied several times daily, but discontinued just as soon as branny exfoliation begins. During this period a mild, soothing salve (cold-cream or borated vaseline) should be applied. The "next best thing" is salicylic acid. Should these fail, solution of hydrogen peroxide may be used, full strength.

The most effective internal medicines are alnuid and irisoid and small doses of leptandroid.

—

QUERY 597S.—"Persistent Uterine Contractions." M. F. M., Iowa, reports the case of a woman, 37 years of age, now pregnant for the fourth time, whose other pregnancies were normal; youngest child about 7 years old. She was released from the State Hospital for Insane one year ago. She last menstruated about April 4, 1913. She has been having pains resembling true labor-pains for now five weeks; is confined to bed, very weak, without appetite, constipated, cathartics increase the pains; pulse is 80; blood pressure, 135; urine, 1010; no albumen or sugar; acidity 55; indican present

in moderate amount; tongue slightly coated. She says she has not slept much, on account of the pains, which are worse at night.

"Examination shows long axis of fetus at angle across mother's abdomen. Head appears to be in right iliac region (not over pubis) and back to right side of mother's abdomen. Uterus feels more angular than normal, development being more in left upper corner. Os quite high, open enough easily to admit index-finger. Membranes but not fetal head can be felt. Uterus contracts vigorously while being handled. Fetal heart can not be located. Mother thinks child moves a great deal.

"Patient had been under care of another physician (who has just left this location) and had received morphine hypodermically, which gave relief for a few hours each time. She was put on H-M-C modified q. s. to control pains (about 2 to 4 each twenty-four hours), and veronal compound at bedtime. Cascara compound for bowels and a mixture of pepsin and diastase after meals was also ordered. Patient much improved, but pains come on each day and she suffers a great deal, is very weak; takes a rather light meal regularly. Slightest palpation of uterus causes it to contract vigorously. Question: Can I hold this woman to full term?"

Now, doctor, what was the form and the cause of this woman's insanity? Has there, to your knowledge, been any marked disorder of the pelvic organs? Any possibility of uterine fibroma? Adhesions binding down the fundus? Is the woman stout or thin? What is her present mental condition?

What to do now? More or less acidosis undoubtedly obtains, and, so, free elimination is essential. Small doses of veratrine (gr. 1-300), with full doses of viburnoid and caulophylloid (adding lobeloid, if the uterine irritability does not readily disappear) also would seem advisable. We cannot see any definite indication for premature delivery.

You say, "head appears to be in the right iliac region, and back to the right side of mother's abdomen, the uterus feeling more angular than normal." From this, it would appear that you have to do with a moderate transverse position, that is, head to the right, back in front, or, the second position of Winkel. Under such circumstances, unless the position is changed, you are apt to get a shoulder presentation; then, naturally, you would not be able to feel the fetal head, nor easy to discern the fetal heart sounds.

You do not speak of any progressive dilatation of the cervix. Is there excessive or

normal enlargement of the abdomen? Can you not, by manipulation (bimanual), bring the head down and retain a proper position by the application of a binder and positioning of the patient?

The uterine irritability may or may not be due to the abnormal position of the fetus. We should endeavor to discover the position of the placenta. Place the woman upon her left side, keep the bowels freely open (not with drastic cathartics, but give compound licorice powder, or, better still, phenolphthalein compound (thalosen) and laxative salines; and make no more vaginal examinations than are necessary.

Of course, you must be prepared to deliver if the woman gets steadily weaker. Under such circumstances, we should dilate rapidly and do version, unless, of course, you have no difficulty in securing a vertex presentation.

We are inclined to think that the previous administration of morphine was a great mistake.

If there is an undue proportion between the size of the fetus and the uterine cavity, malposition would be expected. As you fully understand, controlling pressure exerted by the walls has a distinct effect upon the attitude and lie of the fetus. The fetus in its normal attitude has an ovoid form, as had the uterine cavity. The larger end of the fetal ovoid is composed of the breech; the small, of the head; the fundus constitutes the larger end of the uterine ovoid; the cervical portion, the smaller.

It is obvious, therefore, that, if the fetus is to take advantage of the close correspondence subsisting between its own shape and that of the uterus and so obtain the maximum amount of room, it must lie longitudinally, with the larger end of its ovoid in the larger end of the uterine ovoid. Under such circumstances, pressure is uniform.

In any other presentation, pressure varies over the different parts of the body; hence (unless you have a monster to deal with) with the head in the right iliac region and a modified transverse position, the extremities must be in the vicinity of the left cornus. It ought not to be difficult to modify this position and bring the head down.

It is possible that the uterine contractions which you speak of are due to undue pressure of the extremities on the uterine wall or to excess or absence of amniotic liquor.

Had we a clearer idea of all the conditions involved, we might be able to advise you more intelligently. With the facts at our disposal, however, we are inclined to advise against termination of pregnancy; definite indications for this seem to be absent. Were we in your place, we should, under any circumstances, call competent counsel.

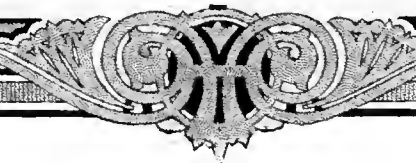
If *accouchement forcé* is essential, it should be done while the woman is strong enough to endure the ordeal and before the child attains a larger size. It is reasonable to suppose that you may absolutely exclude extrauterine pregnancy.

If you have a copy of Jellett's "Manual of Midwifery" or any good modern work on obstetrics, note the illustrations showing the second shoulder presentation, back and front.

Bear in mind that the greater the number of children a woman bears, the more lax becomes the uterine wall and the less pressure is exerted upon the fetus. The fact that this woman has had three normal births would lead us to exclude uterine malformation; but an intrapelvic growth, cystic condition of fetal organs, or collection of fluid in the peritoneal cavity, or abnormal formation of fetus itself (monstrosity) may all favor the occurrence of transverse position and ultimate shoulder presentation.



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Your Wish?

I REMEMBER a game in which, among many questions asked, was this one: "If not yourself, who would you like to be?"

This wet, foggy January afternoon, when we can not go out without getting the soles of our shoes macerated, while our reading-matter available is exhausted and the last number of CLINICAL MEDICINE scanned, studied and gleaned, we may just amuse ourselves, and possibly you, by discussing this question.

There are a good many folk we might wish ourselves to be—J. Ham Lewis with his sartorial gorgeousness Bryan with his silver tongue, Roosevelt with his gumption, Carnegie with his millions, Wilson with his opportunities, Hill with his brains Osler with his reputation, Cummings with his luck, Rockefeller with his power, or some one of the many others possessed of beauty, physique, happy disposition or other desirable qualities. However, we pass each and all these, to wish ourselves to be—once more—a young doctor, just fledged, past the last exam., and sitting in our office waiting for the first patient.

We should begin by making some good resolutions, and the first of these, that the next human being who came within our reach should be our Specialty. No matter whether nothing whatsoever ailed him, he should be

the starting point of our Career. It may be the postman, the milkman, book-agent, friend, pedler, beggar, collector. There's bound to be something the matter with him—pimples, tetter, dyspepsia, a mole, wen, wart, red eyelids, baldness, fatness, leanness, something in which he departs from the normal standards; or, maybe, there are indications as to what may probably be the aberration he will display in the future.

Don't mention it—today. Get rid of him, but read him up. Suppose what you saw on him is a wart: search your textbooks and the medical libraries for every item you can find relating to warts, their nature, meaning, causes, dangers, treatment; celebrated warts of history; traditions and superstitions concerning them. Make yourself an authority on warts. Learn of the disease of Peru known as verruca; the warts on eucalyptus trees in Australia; the wart on the faces of great men and fair women; the relations of warts to tuberculosis; the derivation and meaning of the name; the transformation of warts into epitheliomas; venereal warts; toad warts; senility warts; mucous warts; all the curious and little-known lore you can gather concerning these new growths.

Then get a hold of that warty individual again and open up on him. Tell him so

much about warts that he will be amazed—he will tell everybody he knows that you are a marvel of erudition, that you know so wonderfully much *even* about warts. He will never suspect, of course, that this is the only subject on which you could make a creditable presentation, but naturally will assume that you are equally well informed on all other topics.

The thing will be talked about. The world is always looking for men who can teach it something. Somebody will ask you about something else. Sidestep it. Don't allow yourself to reply, under the mistaken notion that you know anything. You don't! You only think you do, just as everybody else does. Wait till you get away, then streak it for the library and find out what there is to know on this topic also. Never give your opinion until you are satisfied there is no source of information open to anybody in your position that you have not exhausted. Then—and not till then—open the floodgates and let your knowledge pour out.

Keep up this policy, and before long people will be coming to you for information on all sorts of things. Always take your time, and prepare as if for a state-board examination. Your reputation will grow fast.

By and by the time will come when you are called as medical adviser. To what? Well, nearly always the first time it is in an emergency case—and this, mark, is the critical point for you as a doctor. If you are ready—better so than the others—your future is safe; but, if not, as surely as the sun rises and sets, you will be set down as that most useless member of society: a “theoretic man,” not practical.

No amount of knowledge will excuse the lack of quick helpfulness in the time of need. The other man may not know the lights from the liver, but if he puts his finger on the bleeding vessel and stops the hemorrhage while you are thinking of what prescription to write he will have “the call” on you.

I have talked of these emergencies before, but the matter is of enough importance to bear repetition. Go over your list of diseases and injuries and ask yourself what you would need to meet each of them. Then go to work and combine these needs and provide a case to meet these wants. Even if it takes your last dollar, get this emergency-case and have it where you can grab it and run whenever you are called. If it is well planned, you will not have to ask what is the matter (something the messenger rarely knows, anyhow), but you can go, confident that you have every possible need provided for.

Not always, alas and alack! Gee, how well I remember sitting with my finger on a cut artery while somebody went for more ligatures—and how I chased a boy about the street with his prepuce cut off and he bleeding while someone got more anesthetic—and how a babe died from a penny whistle in its larynx because I had not so much as a pocket-knife that would cut. You, my friends, hear about my successes, mostly—naturally—but I've had my failures the same as the rest of you. The first and last time I tried to dilate an anal sphincter without giving an anesthetic—I'll just stop here, for, if I get to calling the roll of all the fool things I've done, I fear I'll go and drown myself.

Instead of that, we will think of the many times that blessed emergency-case has helped us out. First on the scene, first to suggest and apply the right remedy, right there in the case, because we had thought it out long before and knew exactly what was best to be done.

It is while the youngster as yet has nothing to do that he can do his best work getting ready to do things. After a while he will have no time.

By the way, have you renewed your subscription for 1914? Please do so promptly. Also, get your neighbor-doctor to join the family.

DEATH OF SURGEON GENERAL TORNEY. COLONEL GORGAS SUCCEEDS HIM

George Henry Torney, surgeon general of the United States Army, died at his home in Washington on December 27 last of bronchial pneumonia. General Torney was born in Baltimore, June 1, 1850, and had he lived would have been eligible to retirement from the service the coming June. His first service was in the navy, and he was appointed assistant surgeon of the navy November 1, 1871. Resigning from the navy June 30, 1875, General Torney was immediately appointed first lieutenant and assistant surgeon of the army, being promoted rapidly until he reached the rank of major upon August 8, 1903. He became a colonel of the medical corps April 23, 1908, and was appointed the surgeon-general of the Army, January 14, 1909.

General Torney saw rigorous service in the Philippines and in Cuba. He was a member of the American Medical Association, of the Association of Military Surgeons of the United States, the American Red Cross.

Army and Navy Club, Catholic Club of New York, and Bohemian Club of San Francisco.

LATER. Since the preceding was written we have learned that Colonel William C. Gorgas, chief sanitarian of the Panama Canal district, has been appointed to succeed General Torney as Surgeon-General of the United States Army. The appointment is one which will meet the approval of every physician in the country. Our army is to be congratulated. We are proud of our medical corps—and we expect to be more proud, with General Gorgas at its head.

A skeptic in therapeutics can teach nothing.
—Sir Dyce Duckworth

TURN BACK OR GO ON?

I sometimes ask myself the question, Am I hopelessly behind the profession, or no less hopelessly before it? For that I am out of the full sweep of the current of medical endeavor, is evident. Am I in an eddy, circling back toward a point the main body has long since passed, or am I feeling my way along a short-cut and opening up a new and better channel, which—although today there is but a feeble trickle—will some time enlarge until one day the great body of water will sweep through it on its seaward way?

I know I am right; I know that one day the medical profession will return to the use of drugs. I know this, because I have faith in the medical profession and in humanity. It will be so, because it must. It is right; and along this line lies progress.

Here is my first argument:

The medical profession today is ignorant of its first principles, of the fundamental facts upon whose recognition is founded the profession of medicine. I refer to physiology and pathology.

Not long ago there came from Dr. Richard C. Cabot, of Boston, an astonishing verification of this statement: for the researches made in very many autopsies showed that the diagnoses made by able physicians were correct in less than twenty-five percent of the cases! Little wonder the therapeutics had failed, when in three cases out of four the doctors were treating the wrong ailment.

The primary difficulty lies in the limitation of the human intellect. The earnest student tackles his anatomy, finds its study absorbs all his powers, and leaves college in four years with a fair knowledge of anatomy and barely a smattering of the rest. Naturally, he be-

comes a surgeon and applies to his professional duties all he knows.

Now, why should the diagnoses be wrong seventy five times out of a hundred? The reason is, because the doctors do not know their physiology well enough to recognize the disorder in the working of the bodily functions, and they do not know their pathology well enough to recognize the disease that induces the disorder.

The difficulty lies, first, in their ignorance, and, secondly, in their neglect of the known and accessible means of completing the diagnosis. Where is the consultant who has not had occasion to echo the cry of Goodell, that had the doctors who brought him cases for diagnosis used the means he did they would have been able to make the diagnoses themselves. Are there any old Jefferson men who do not recollect the first question of the great Da Costa, "Have you examined the urine?" Only too often the doctor has to acknowledge that he had not made a physical examination!

For years I have been urging upon my colleagues the necessity of studying their patients more closely; of familiarizing themselves with the normal operations of the human body and the limits of reasonable variation therein; of studying modern pathology, so that when they recognize disorder they may also know the cause; and, knowing this, they may also know when and how to intervene usefully.

I have urged upon my friends the necessity of using the modern means of precision in diagnosis, the thorough physical examination, the study of each organ and its functionation, of the secreta and excreta, of the aid afforded by biologist and chemist, through which the vast majority of causes of disease are well within the diagnostic reach of the average doctor.

It does not require a superman to be a successful diagnostician today. It is an easy job compared with what it was when Da Costa and Loomis put out their first editions. There isn't a reader of this journal who is not capable of diagnosing ninety-five to ninety-nine percent of his cases if only he will take the pains.

Curiously enough, therapeutics is away ahead, waiting for the crowd to catch up. We therapeutists have elaborated on several of the finest weapons, as perfectly adapted to the multitudinous uses to which you can put them as are the instruments in the dentist's cabinet to his uses. Our wrenches and levers are at hand, ready to tighten or loosen, raise

or depress any and every function of the human body. Just show us the disorder—and here's your instrument, exactly fitted to the need.

If you will persist in extracting all teeth with one forceps or with a rusty, infected old turnkey, so much the worse for you and your patients. You don't have to, if you'll only select the right tool for each tooth. And just so for nearly all these purposes drugs offer the very best means of relief. Giving full value to every one of the non-drug methods, they do not best meet five percent of the cases coming to us; and the present tendency to use anything rather than drugs is so silly that words are wanting fitly to characterize its imbecility.

Now, as to surgery. God forbid I should so much as seem to detract from that branch of the healing art that has rendered it so illustrious. But—why wait till a case has become surgical? Why not foresee the difficulty in time to prevent its going so far that removal of a part become useless is all that is left? Why, indeed, except that, as aforesaid, you are not qualified to make early diagnoses?

You should be!

Come back to my proposition—take charge of one hundred families at so much per annum, or per mensem, and devote yourself to the study of these individuals in health. Study them physiologically, as if you were in college preparing for final examinations. Study them and their surroundings, and habits, and tendencies. Get to know them so well that the slightest deviation from health arrests your attention, and be ready with advice long before a remedy is needed.

Every time the doctor says to a patient "the time for successful treatment is past," he indicts the wornout system of today and chalks up a murder against it. For what is murder if not the failure to save a life when it can be saved?

Am I right or wrong? If wrong, show me. If right, then please, boys, hurry up and catch up. It's lonely "way out front here."

I wish to record the prediction, that the year 1949 will see an enthusiastic revival of drug therapeutics in full force. That will give the surgeon time to subdue the last remaining relics of the human body and perfect his technic to the ultimate atom of perfect perfection. Pathology will be fully developed; the last bug will have been tail-salted and classified, the biology of the protozoa likewise elucidated. The last remaining possibility of non-drugdom will have been exhausted; and in the sheer impossibility

of finding any other avenue for progression men will turn to drugs.

But it will be a very different therapeutics from the old. Men will use known agencies, for obvious reasons, will seek to apply direct remedies to well-apprehended disorders of function. They will use single remedies; and the man who employs a shotgun mess will be looked upon with bewilderment.

The science of the pharmacist will lie in separating drugs rather than in mixing them. The known active principles will be studied individually instead of in classes. The vegetable world will be ransacked for more principles, and every new one produced will be thoroughly tested in the laboratories and then no less thoroughly tried out in the great clinical laboratory, the sick-room.

There will be no disputes as to treatment, for knowledge of disease and of remedies will have advanced to such a stage of certainty that there can be no dispute. Only one way will be open—the right way.

Speed the day.

Work has won the victories
In the stress of strife;
Work has crossed the stormy seas,
Work has solved the mysteries
In the lore of life.
Work has never time for tears
While there's more to do—
Work upon the path of years.
As the golden goal appears,
Sees some goal anew.

—Douglas Malloch.

ANOTHER BURDEN FOR THE PHYSICIAN

It would seem as if the lot of the average physician were hard enough already, but our law makers seem intent upon making it still harder. However, the latest movement to reduce the size of the physician's income and circumscribe his professional activity comes from the Postoffice Department. Postmaster General Burleson has recently so altered the regulations governing the admission of poisons to the mails as practically to debar manufacturing pharmacists and other distributors of drugs from using the parcel post for the delivery of a large number of medicinal substances to their customers. We feel perfectly certain that he could not have appreciated the injury such a ruling would do to a large and influential class of honorable and law-abiding citizens, otherwise the regulation would have been made in a somewhat modified form.

For many years only those "poisons" have been refused admission to the mails which "outwardly and by their own force" were deemed likely to be harmful to the mails themselves or dangerous to those handling the mails. So far as we are able to understand the new regulations (just put in force by the present Postmaster General), it seems to be the purpose to exclude *all* poisons, and unfortunately no line of demarcation has been drawn between useful medicinal substances and harmful poisonous substances.

The meaning of the present regulation is exceedingly obscure. While poisons are debarred, no definition has been offered by anybody in authority for the word "poison." However, the Postoffice Department clearly intends to exclude all narcotics from the mails. This is shown by the fact that the New York manager of a large manufacturing pharmaceutical house was arrested on February 9 for sending 500 1-24-grain heroin tablets to a wholesale druggist in Boston. The firm ordering them specifically requested that the tablets be sent by parcel post. The meaning of the law was presumably changed by administrative order, and its character and scope are not understood even now. However, if this man is convicted he will be heavily fined and may be sent to a federal prison.

Under the circumstances, no purveyor of drugs, big or little, will dare to send "poisonous" medicinal products through the mails. How such a change of business policy will react upon the physician you can all understand. It will make it more difficult and expensive for him to secure supplies, as we shall show.

Every physician has legitimate and proper uses for such narcotic drugs as morphine, heroin, and cannabis indica, and for such poisonous substances as strychnine, aconite and arsenic but in spite of this will be unable to derive much advantage from the parcel post. In securing "the tools of his trade" he will hereafter be discriminated against, as compared with other American citizens, and to a much larger degree than will appear at first sight. The emergency remedies which he must use in his practice are very largely poisons. It is these remedies which he desires to get on short notice. Upon the skilful use of these remedies the lives of his patients largely depend, and yet to secure them he will be forced to pay unusually high rates of carriage, suffer grave inconvenience, and in many a critical time go without them altogether.

Not only does this regulation injure the physician but it hurts the retail druggist also, since it makes it practically impossible to replenish quickly his stocks with small quantities of important drugs; also, he cannot even send by mail to a customer the drugs ordered on a physician's prescription. Neither can the doctor do this himself, if his prescription happens to contain one of the proscribed poisons.

At present, dealers in drugs are sending medicinal substances which happen to be poisons exclusively by express. When the package happens to be a small one, the carriage in many instances will equal or exceed the value of the remedy purchased. The many physicians who are located at points remote from the railroads will find it exceedingly difficult to secure supplies promptly. Just what these men—you—are going to do we do not know, but that these men—you—are being made to suffer a grave injustice, an injustice which is shared by the many able and conscientious drug purveyors who are in no wise accessory to the traffic in narcotic drugs, but are fighting this traffic constantly and consistently, is equally plain.

Under the circumstances, we think it but proper that every physician who objects to the form of the regulation should register his protest with his representatives in Washington and with the proper administrative officers, including the Postmaster General, who is more than an able man—he is a square man. When he understands the exact situation we look for a revision of the post-office ruling.

More is involved in this matter than the mere monetary loss to the profession, although this will amount to many thousands of dollars annually, which necessarily must come largely out of the pockets of the physicians of this country. The pity is that this is only one of many measures now being considered, and clearly designed for the repression of the rights of the medical profession. Those who desire to retain a proper degree of liberty of action—the liberty to do right, never to do wrong—should speak now before it is too late.

Wherever possible every physician should, of course, arrange for a local source of supply for the "poisonous" remedies in constant demand in his practice. If such a satisfactory arrangement cannot be made he should order in quantities large enough to warrant express shipments.

Finally, we should unite with all other good citizens in working out uniform legislation for

the suppression of the illegitimate traffic in the habit-forming drugs. No class of men is more conscious of the dangers of these drugs, more anxious to see these dangers removed and the public protected from rascals of all kinds, than the members of the medical profession.

Mental work of a congenial kind is a great stimulus to bodily vigor: to think good thoughts, work them out like nuggets of gold, and then coin them into words, is a splendid joy.—Elbert Hubbard.

THE SEXUAL-INSTRUCTION CRUSADE

May we, without risk of being misunderstood, be suffered to raise the question as to whether the modern zealous crusade of sexual education is not being a little overdone; whether, indeed, in some quarters at least, it is not being pushed to rather absurd lengths? It is, to be sure, quite natural that we should do this.

We have suddenly awakened to the truth that sexual diseases, which for so long we were accustomed to regard with indifferent complacency, are responsible for some of the most disastrous and far-reaching ills to which the race, no less than the individual, is heir. Along with this awakening came an equally startling recognition of the fact that there had hitherto been a "conspiracy of silence" on the part of those who ought to have spoken concerning the truths of the relations of the sexes. It is but natural, that, under the influence of our self-reproach and in our eager zeal to make up for past neglect, and no doubt spurred a little by public sentiment on the subject, we should rush to the other extreme, and indulge in all sorts of extravagances.

We would not be misunderstood in this matter. We are heartily in accord with the general wisdom of a policy of frankness and knowledge in things sexual, as opposed to one of suppression and ignorance. There is, we are convinced, safety in the former, even as there is danger in the latter course. But we do protest that in this, as in everything else, sanity is the keynote of real efficiency; and we do feel constrained to utter a word of warning that, in our newborn and rather vociferous contempt for "prudery," we are running the grave risk of rudely shouldering out of court that wholesome reserve (of which prudery is but the spurious counterfeit) upon which, after all, the strongest defense of sexual morality has always rested, and upon which it must continue to rest.

While freely admitting, as we already have done, the value of frankness and enlightenment, we still maintain that, in order to keep men and women from becoming swine, it is not altogether necessary that they should receive a minutely detailed course of instruction in the habits and diseases of swine.

WHAT IS YOUR EXPERIENCE WITH BACTERINS?

A Minnesota subscriber suggests that we have a symposium on "Bacterin Therapy." He says if we make an appeal for contributions we shall "be surprised by the response and results shown by it."

The suggestion is an excellent one, and we extend an invitation right now to every reader of this journal who has had experience with these remedies to tell us just what he is doing, how he is doing it, and the results he is obtaining.

Make the article short. Boil it down. Give actual experience, not theories. Let us have a lot of articles from a lot of men, out of which we can help to build a foundation for this growing structure of biologic therapy. Also tell us of your experience with the anti-toxins and serums, using the same terse, right-to-the-point language and dealing only with actual experience. Everybody is invited.

Action, though crowded with failures, is better than idleness among those who "have been."

—James A. Worsham.

REPORTING THE ATYPICAL CASE

So far as the clinical side of medicine is concerned, it rests wholly upon case reporting. Without sick people, there never would or could have been either a science or a practice of medicine. And without the concrete embodiments of pathology and therapy represented by the patient, there would be no pathology or therapy. The proper study of mankind, says Pope, is man. Similarly, the proper study of the medical man is the patient, and the case-report is his ultimate and most instructive textbook.

Unfortunately, however, a great deal of case-reporting appearing in the medical press of the present day is not of the character most calculated to furnish the practitioner with substantial assistance in the performance of his daily work or to contribute to the permanent central progress of medicine as a whole. Reports of cases, as furnished by a large propor-

tion of the writers to current journals, fall into one or other extremes of practical uselessness. Either they relate to altogether exceptional cases (by which we mean those cases so rare in their aspects as to constitute what our biological friends call "sports"), or else to some case or group of cases so commonplace or altogether typical as to savor of tiresome redundancy in their being reported at all.

Neither of these classes of case-reports are of any real use to medical literature; certainly they are of no working-value to the practitioner. The rare case is the medical and surgical exception; and no working-principles, whether of pathology or of therapeutics, can be predicated upon an exception. The report of such a case may be interesting as a curio or flattering to the vanity and reputation of the physician reporting it, but it has no genuinely scientific significance, and certainly no helpful influence.

The stereotyped, cut and dried report of the typical case, on the other hand, is equally devoid of interest to the scientist or of value to the practitioner. As a matter of fact, the typical case is, itself, a rare occurrence; and the reason why so many cases of this kind are reported in our literature is not that they are numerous or common, not, indeed, that they really occurred at all as their narrators relate them; but, because the men who report them either have not perceived or do not present those very elements of atypicality which would make them interesting and instructive to the reader.

This, then, is the class of cases that are most valuable to the working-literature of medicine and surgery, and which ought to be the most frequently and carefully reported—the atypical form of the commonly met disease. It is not the typical, but, rather, the atypical, features of disease which puzzle and perplex. And it is not the typical, but the atypical, features that throw new light upon the pathology and treatment of old disease-conditions.

Not that we would advocate rushing into print with every little variation of pathogenic conditions or every slight improvement in some difficult, out of the ordinary case. But any considerable departure from the typical, or classical, course of a well-known and well-distributed disease, and any worth-while experience with a new and rational mode of treatment suggested by such variation, intelligently reported, is of genuine practical value to medical science and practice and should be communicated.

To report the average, typical case, is a mere waste of time, a rehashing of textbook information. To wait for the rare case, is, in most instances, hopeless, because rare cases naturally are rare, and when they do occur are of no working-value. The intelligent observation and reporting of those atypical cases of common diseases that may shed new light upon their pathology and treatment are the ideal methods of promoting real progress upon the practical side of medicine.

It is this kind of case-reporting to which we aim to devote the pages of CRITICAL MEDICINE and to which we invite the co-operation of our "family" in all parts of the country and other countries.

The soul of man can never be enslaved
 Save by its own infirmities, nor freed
 Save by its very strength and own resolve
 And constant vision and supreme endeavor!
 You will be free? Then courage, O my brother!
 —George Cabot Lodge.

CONCERNING COUGHS

Sang the bard, concerning the happy unsophistication of the English peasant:

A primrose on the river's brim
 A simple primrose is to him,
 And nothing more.

So is the cough to the layman—a cough, *et præterita nihil*. So also is the cough to the great majority of medical practitioners, we fear, if one may judge from the fashion of the prescriptions that are written and proffered for the relief of this most familiar of disorders.

"Stop that cough," for years the trademark of a certain famous brand of patent cough lozenges, would appear to be the general watchword of the regular practitioner in dealing with the patient who coughs. Proof? You see it exemplified in the administration of a growing list of sedatives, ranging all the way from opium to licorice; varied at times, it may be, by the resolution, "Make him cough," and using for this latter purpose the group of drugs known as expectorants. Yet there does not seem to be any guiding principle to determine which of these two therapeutic courses are to be pursued, except the rather crude one of the patient's already existing attitude toward the question of coughing: if he is coughing freely, stop it, if he isn't, why, make him!

Rarely, indeed, either in literature or in practice, do we see any serious attempt made to determine the pathologic physiology of the cough, its cause, its mechanism, its signifi-

cance, and to apply the rational remedy in accordance with these considerations. Nevertheless, there are, as everyone must recognize upon a little reflection, several varieties of cough, differing as radically in their nature and mechanism as so many utterly distinctive pathologies, and calling for equally different modes of treatment.

There is, for example, the bronchitic cough. This is, perhaps, the simplest and most direct in its physics and its philosophy. In its most elemental form, the bronchitic cough is the response of the motor organism to the irritation of foreign substances on the mucous surfaces of the bronchial tubes calling for removal. It is, in fact, the same thing, in physiologic principle, as the sneeze. It is a purposeful, protective, autoremedial measure. Hence, the principle of its treatment is, that in the main it should be encouraged, assisted.

The detailed ways and means of its encouragement, to be sure, may vary, and must be employed according to the practitioner's judgment. If the offending exudates be tough and tenacious, the best way to help is to soften and relax. If they be already loose and fluid, then the indication is to promote their expulsion. There may even be individual cases where the principle must be violated and the cough suppressed, because of other considerations. We are not stickling for details. We are concerned in pointing out this distinctive form of cough and the rational principles of its therapy.

The emphysematous, asthmatic, cough is altogether another type. There the causative factor is not the irritation of the mucosa by offending exudates, but an excessive intrapulmonary air pressure combined with a state of more or less nervous panic. The cough does no good, except for the relief that comes from resulting relaxation (which may better be brought about by other means), but, rather, harm.

The logical principle of its management, therefore, is, to suppress it; and that not so much by local action upon the respiratory mucosa as by sedation through the central nervous system. The details, again, are unimportant here. The essential point is, that we have an entirely different type of cough, with equally distinctive principles of therapy.

Once again. There is the pneumonic cough, of which pneumonia furnishes the most extreme example, but which occurs in advanced tuberculosis, too. The physics of this type of cough is neither mucous irritation nor intrapulmonic pressure, but the result of

crippled lung-tissue and inadequate breathing. As a cough, it is neither to be actively encouraged nor actively suppressed. The truth is, it is not to be considered as a sheer respiratory symptom at all, but as part of a vicious circle of which the circulation is the paramount arc.

The principle of treatment is, to go back of the lungs to the heart, and, by holding the heart in prolonged diastole (with digitalin, as a rule), to give the embarrassed right auricle and pulmonary system time to disgorge themselves.

These are but a few illustrations of the subject. They are enough to drive home the point we are trying to make; namely, that a cough is not the isolated, uniform, cut and dried phenomenon that it so often is mistaken to be; rather, that it is part of a physiologic circuit the entire ratiocination of which must be traced and analyzed and the logical train of events set in motion for its proper regulation.

Here is one of the many fields, right at our hand, almost trite in its familiarity, where there still is much to be done in the way of rational drug therapy.

It is sometimes being forgotten that in the matter of treatment clinical observation must always be the final appeal.—Sir Dyce Duckworth.

TWO MEN: JACK APPLE AND LOUIS EYTINGE

Today I picked up a copy of *Office Appliances*, a magazine in which the doctor is not supposed to be interested at all—although he should be. A story which I found in it, and which I am now going to print, proves this assertion true. First read the story and then I will tell you something about the man who wrote it.

"A bright young man had but two days before graduated from the Georgia Institute of Technology, and the future loomed large before him. In the blithe bravery of his success, he was sporting in the surf at Savannah—made a dive and—his friends carried him out of the water with a broken neck.

"Time and again they expected Jack to die—but he wouldn't. He always was a disappointment to the yelpers and croakers. His technical training was no longer of value to him—for he was a man paralyzed from the neck down. Some niche would have to be found in which he could fit. His brain was too active to permit of idleness—even though he were helpless.

"You know the hard name the boring life insurance solicitor has given to his following—you know you fly as from a pest when the average pedler of policies approaches. You know that it requires initiative, ingenuity, get-up-and-at-them-ness—and despite the handicaps in front of him Jack determined to sell life insurance. He had but one thing that was favorable to this resolve—his father had been a general agent for the same company he joined and Jack had grown up in the insurance atmosphere and knew the business.

"Every day a small, especially built wagonette is drawn up before Jack's door, a low reclining-chair is trundled out—tenderly, because of the burden it bears—and placed inside the wagonette. A young boy drives the conveyance and calls the prospects out to the curb. He has to carry the rate-book and to handle the papers—to turn the pages—to do the writing—to hold the 'phone receiver to Jack's ear when the latter stays in his centrally located office and sells insurance.

"Jack can't do a thing but use his head but they know the smiling fellow everywhere in the city of Savannah—they know him at the theaters and at the ball games. He's the cheeriest fellow I've ever heard about—they say he is unusually bright, unqualifiedly a business success—wholly good-natured and mighty opulent in his optimism. He shames the rest of the force of that company when he writes his formula for success as 'nothing more than using knowledge coupled with concentration and persistence.' And he lives up to the line he wrote: 'These three words mean more, in my opinion, than a whole dictionary of others—*Make friends! Smile!*'"

This is a beautiful story of a remarkable man; but equally interesting is the story of the man who wrote "The Story of Jack Apple." And, by the way, the latter was not intended to be a "story" at all; it was copied from a letter to a friend and is a natural and spontaneous expression of sympathy, springing out of the heart of a man who has suffered himself, and has conquered.

The writer of the story, Louis Victor Eytinge, is a prisoner in the state prison at Florence, Arizona. He was convicted of murder and is in for life. Prior to this, he had a criminal record, having once served time for forgery in the Columbus (Ohio) state prison.

I do not know whether Eytinge was guilty of murder or not. He says he was not, but the courts have decided that he was. Whatever the truth, when he was committed to prison his condition seemed about as hopeless

as that of any man in the world. Look at him! just a young fellow, and condemned to spend the remainder of his days behind the bars; and, to make matters as bad as could be, he was apparently far advanced in tuberculosis, weighing at the time only one hundred and nineteen pounds.

But there was the same determined will in Louis Eytinge that there was in Jack Apple. Most men under such circumstances would have given up and died. Not so Louis. He made up his mind to live—not only to live, but to get something out of life.

As a first step toward his self-cure, he began to study tuberculosis, and immediately he set about making money enough to buy himself milk, cream, butter and other articles of diet more generous than the regular prison fare. He "read up" on the disease, and then tried various remedial agents, among these, I am happy to say, nuclein solution. That was some years ago. Today he weighs one hundred and sixty pounds and is entirely well. I hope the nuclein helped.

Especially interesting was his method of raising the money he needed. Although a prisoner, he went into business, beginning the sale of Mexican hair-work, which some of his fellow convicts were making during their few leisure hours. Of course, there was not a market for such goods in the state prison; so, he began to write letters to people in the outside world, these gave him the names of their friends, and gradually he built up a mail-order business which brought him in a comfortable income—enough to afford spending-money for his convict-friends, after satisfying his own needs. The last I heard from Louis, through a common friend, he was making about \$3000 a year, and out of his profits he had been able to pay back to the state the expense incurred in putting him behind the bars.

The secret of his success was in his letters. These letters were intensely human, filled with optimism and faith in his fellow man, and they "pulled!" They were written with the utmost care, and, yet, in every line they breathed spontaneity. Read again the story of Jack Apple, which I have just quoted, and you will understand what I mean.

Eytinge's letters attracted the attention of people who appreciated his talent, and he was approached by men who wanted the kind of merchandise which he was able to supply—letters. And, so, he began to write letters for other people, and then to write advertising, and in these ways he was able to add still further to his income. Just how much that

income is today I do not know, but it is safe to say that this "lifer" is making more with his head behind the bars in the Arizona prison than most of us, living outside of it, are with head and hands combined. All this he was able to do because the warden of the Arizona prison had adopted a broad-minded and humane method of treating his charges instead of falling into line with the narrow and cruel customs now generally in vogue.

Nor is this all that Louis Eytinge has done. Being a criminal and a prisoner, he was alive to the needs of other criminals and prisoners, and through his pen and the influence which he has been able to command, he has succeeded in still further ameliorating the condition of all his fellow prisoners, so that today—thanks, in part, to his efforts—the Arizona prison is in many respects a model, exemplifying my own repeatedly expressed belief that penal institutions should not be established for the increase of human suffering, but should be reformatory and humanizing, as well as penal.

The criminal is not a thing, a dog, a mere animal. He feels, suffers, loves, has longings, aspirations and ideals like others of the class from which he sprung. He should be given "his chance." If proper influences are thrown around them and suitable opportunities afforded, there is no reason why the character of hundreds of these men should not blossom and bear good fruit, just as has the character of Louis Victor Eytinge. What *right* has society to crush in a man all that is good when it sends him to prison?

Some day we hope the prison doors will open for Louis Eytinge; for, whether he was guilty or innocent, he has shown that he has a right to live, and, it would seem, has repaid society for all the harm he has ever done it.

When I read the stories of men like Jack Apple and Louis Eytinge, it makes me ashamed of my own failures to make use of the magnificent opportunities which are mine and which are denied these men. I know, though often I am ashamed to confess it, that what I am depends upon myself and upon no one else. The man who charges his failures upon luck or lack of opportunity should consider the careers of these two men, one a helpless paralytic, the other a life-term prisoner.

There is not a man who will read these lines who would exchange places with either of those two men, and, yet, thousands of doctors are bewailing the fate that seems to close for them the door of opportunity. It is not closed. Examine it, and cross-examine

yourself closely, and you will find a way to open it.

Some men are ground down on the grindstone of life, while others are polished up—it depends on their kind of stuff.—Stewart.

WHAT'S THE USE!

There isn't a location in the United States where a doctor can make his living but there's a doctor already there. There isn't a town that can support a dentist, lawyer, carpenter, blacksmith or any other craftsman, but has two or more competing for the work. There isn't a hamlet, but has a school, unless it's too poor to support a teacher. There isn't a community that can support a church, but has three, two of which receive outside aid. There isn't any place for dry-goods, groceries, clothing, or any other business that isn't overdone. Look at the drugstores, and saloons, and clothes-cleaners, and tobacconists, and storage-houses; look at the unemployed laborers! There are too many men in every branch of man's labor. Better have a war and thin them out?

Women? Of course there are too many women. Take up any newspaper, and see how many items you can find where two or more women claim or want one man. Try to find employment for any woman that will yield her support, and see! Find a household that does not shelter at least one superfluous woman, one that doesn't give a home to "Aunt Hannah." Yes, there are, surely, too many women.

The State can't build jails to hold all its criminals, asylums enough for its insane, hospitals for its sick, almshouses for its poor, schools for its children.

Too many of everybody.

Brahmin and Buddhist went over this ground ages before the Galilean walked the earth, and they came to the conclusion that nothing was any use: that world and life in it were irretrievably bad and the best thing that could happen to anybody was to get out of it. Pessimism was the weighty claim with which the Brahmin shackled Media, and Buddha added to its weight. Yes, Gautama, who, dying, gave as his parting message to man the words that can not die, "Be kind to all that lives," he also found no heaven promising so much as Nirvana—nothingness.

Yet, the rich earth yields its increase to the tiller, and the rain falls, the sun shines, the birds sing, the seasons roll round, and winter's snows are stored away to afford moisture

to the swelling grain, and the growing crops gladden the eye with their promise of plenty. The children shout, laugh, and arouse the somnolent elders with their tumult. Girls and youths who have labored the long day fill the evening hours with song or saunter off in couples.

Now take any human vocation—our own will do—and survey it by itself. Some men have success, some become eminent, some merely hold their own, some fail.

Wherein, then, lies the difference? In work, every time! The man who works hardest succeeds best. I don't mean mere hand-work, or routine work, but work with hands directed by brains; well-considered plans, energetically followed out. That combination is a sure winner.

I've known lots of pessimists. One had been a great merchant, but failed. He lost his nerve, and never tried again. He could spot the weak links in a chain every time and show just why the scheme would fail. Other men with less brain-power took the chances and made good.

One of the most accomplished physicians was incurably pessimistic. Patients respected him, but went to other doctors. He wouldn't venture an opinion or give them any encouragement. Less scrupulous men promised everything, and they generally won out. If they didn't, they left among the family the feeling that the doctor had made a good fight, anyhow—and men like a fighter. My pessimistic friend had the abilities of a DaCosta, but—I'm not sure whether he is alive yet or not—I never hear of him.

Some traveler described this scene: On a steamer there was a bench on which sat ten men, exactly filling every inch. A Turk came up, surveyed the seat, then turning his back he pushed his way to and onto the seat. At one end a man fell off. Then the Turk went on "scrounging" until another fell off; whereupon our Turk squatted squarely on the bench, cross-legged, and calmly began to smoke. Now, if that Turk had been a pessimist, he would have seen there was no room for him on the bench and stood up till somebody made place for him.

Mister Pessimist, you are the fellow who was crowded off that bench.

This is my treatment: I once sat down seriously to consider how I should have arranged this world had I been the creator. O, well, I should leave out sin, disease, and death; I should abolish greed, cruelty, and selfishness. But I soon found that this scheme wouldn't work ut. oFor, with every

vice I destroyed I demolished also a virtue; for every difficulty removed, I took away an incentive to exertion. Life became monotonous, meaningless, unendurable—and the thought of this state going on endlessly became appalling. This glorious earth is planted full of the most enticing possibilities, waiting for somebody to discover and develop them.

We may not be Edisons or Madame Curies, but to each and every one of us comes the opportunity to do something worth while. But we can do it only by getting to work; never by sitting down and whining, "What's the use?"

Africa faces a problem. Colonization is impossible where the sleeping sickness prevails. This is due to the trypanosome, transmitted by the tsetse fly from large mammals or "big game," especially the antelope. Ergo, the game harboring the parasite must be exterminated before settlement can be permitted. Query: Which is the Dark Continent to be, the outlet for overcrowded populations, or a game preserve?

AN ENGLISH MEDICAL JOURNAL: A SURVEY

I have before me a copy of *The Lancet*, one of Britain's two great medical journals. How does it compare with the periodicals emanating from the medical profession of our own country? Let's see.

This copy has 78 pages of reading-matter and 82 pages of advertising. It is in its 185th volume.

The first article is an illustrated address on "the degeneration of the neurone in the light of recent research; especially in relation to syphilis and general paralysis." It is scholarly, the bibliography comprises the most recent and valuable publications bearing on the subject; the address is such as a man gives who has thoroughly studied the topic, worked upon it, made it his own, and furnishes a paper from the viewpoint of an expert in that particular subject—such a paper as appears from a man who comes out in print once every five years. This is the impression these English papers make on me.

In our own journals, we are likely to find screeds written by men who have theories to advance, based upon fancy and ignorance, and supported by forced analysis, imperfect observations and illogical reasoning. We have compilations made by men turned loose in a library, without any real personal knowledge or experience worthy the name.

The next article in that issue is by an army surgeon, and it relates experiences with

gonorrhea phylacogen—not altogether favorable. Then there come, in turn, two brief but well recorded accounts of local outbreaks of poliomyelitis; ascites treated by means of multiple paracentesis; polyvalent tuberculin—a new technic; tubal gestation continuing to the sixth month after rupture at the sixth week; the diagnostic value of Abderhalden's method in carcinoma; peracephalasis in southern Nigeria (22 pages); then follow the departments: clinical notes, 2 pages; society reports, 6 pages; reviews, 7 pages; new inventions, 1 page; editorial, 8 pages; medicine and the law; the London County Council and medical affairs; public health; the services; staff correspondence; obituaries; open correspondence; the national insurance act; finally, medical news. A great deal of this matter is of local interest alone, but there is much of real, practical concern, while the newer advances in European medicine are kept well before the readers.

It seems unlikely that the British doctor can find time to peruse every week all there is printed in this journal, and *The British Medical Journal* as well, if he has anything else to do. Nor would it be worth while for any but a British doctor to wade through all the matter of British interest exclusively. Still, I doubt whether we find many medical publications that give as much really valuable material—valuable to the busy practitioner—as is to be found in *The Lancet*.

From our study of the London *Lancet*, we may draw a picture of the English doctor himself. His characteristic is dignity. He is about seven feet high—psychically at least—and from the lofty height he occupies he looks down on such sublunary trifles as patients, theories, researches, discoveries, and revolutions. Beyond his utmost ken there may exist such things as fees. His dress, his gait, his deportment are dignified. The gold-headed cane must survive, to occupy his hands. The Prince Albert—why not the surcoat, knee-breeches, silken hose, shoe-buckles, and, of course, peruke?

Thus he stalks down the street, an impressive figure, before whom all idle talk and jesting are suppressed and hats come off. In the sick-room his manner is urbane, condescending or overpowering; the disease has absolutely no room to linger, the patient is crowded into a corner and draws a full breath only after the Doctor has departed. The Doctor, doesn't merely go, he Departs.

How in the living world any ordinary personage ever musters courage to suggest a fee to this lordly being is a mystery. Such

matters must be arranged with his servants. His whole being, accessories and environment are impregnated with the ideal of the Lord of the Manor. He is a faithful copy.

But we strongly suspect he is only a copy. Let him meet with the real thing—the Simon pure, only original John, Lord of the Demesne, and the Doctor shrinks. The ramrod of his spine changes to a wriggling eel and assumes the horizontal. He finds his tongue loosen up, profusely, yet, obsequiously.

Milord—the genuine—playfully pinches the Doctor's ear and whispers in it laughingly, then passes on, leaving the medico speechless with delight. What pride—no, that's too poor a word—only the French *l'orgueil* is good enough to express the state of mind—he displays now as he promenades down the way.

The passive respect with which he was viewed previously changes now to active adoration. Men hunt up long-forgotten bills to pay him; women acquire ailments as excuses to call him in, and deftly, delicately, "speir" as to what Milord communicated to him. This, of course, is a matter of confidence too sacred to be imparted, although the Doctor lets fall some hints of its momentous nature, and may in special instances unbend sufficiently to relate an anecdote illustrating the warm personal friendship existing between him and Milord, or the high esteem in which the latter holds the Doctor's professional acquirements.

And so he goes—a noble figure of a man, a worthy, self-respecting upholder of the Dignity of the Profession.

What was it Milord did say?

Just bend your head lower, that I may whisper it in your ear, really under seal of the strictest confidence. You won't repeat it? Never? Swear it, so help you Mike!

Milord said: "Doc, you solemn old ass, your wig needs a hair-cut!"

THINGS WE SHOULD DISCUSS

There are several things we should discuss in CLINICAL MEDICINE.

First, the automobile: What is the best one for the doctor? What does it cost to run it? Suggestions regarding its care.

Second, the bacterins: We are to have a symposium on this subject in our May number.

Third, spring and summer ailments: Everything from colic to zoster may come under that head. Diarrhea, dysentery, malaria, urticaria, ivy-poisoning, — hordes of other things.

Please "tell us"—in the fewest possible words.

Leading Articles



The Treatment of Typhoid Fever

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—Last year Doctor French gave us several lectures on active-principle and allied methods of therapy, these being part of a course delivered at an eastern medical school. In this lecture, and several to follow, the course is continued. Other papers will follow in several succeeding issues.

AS A FURTHER illustration of the application of active-principle therapeutics, I shall speak to you today of the rational treatment of typhoid fever. But I do not wish you to understand that there is any recognized method of treating this or any other disease which is limited to the exclusive use of the active principles of plant-remedies. Rather, I desire to call your attention once more to the fact that the use of the active principles in the treatment of disease does not, in itself, make a physician an active-principle therapist, but neither does the use of other remedies in addition prevent his being such.

Indeed, as I have already told you more than once in substance, the active-principle therapist as a rule is not a seer arian, or a far' list, or an extremist in any direction. He uses the active principles and conforms to the other fundamentals of the method in most cases, for the reason that he has become convinced that the best results can be secured in this manner. But, in any case where experience or observation or testimony has convinced him that the cure of the patient can best be brought about in some other manner he unhesitatingly departs from the tenets of strict active-principle medication and uses that which to him seems the best method. Not methods, but results, are the things to be sought after.

You will find that typhoid fever does not always present itself in the sick-room as it is pictured in the lecture-room or in the text book. I once heard a physician say that, although he had been in practice for ten years, he never had seen but one typical case of any disease. By which he meant that he had seen but one case which corresponded closely with the descriptions given in the books. He had

learned the lesson that, while the teacher must describe the type, just as the artist must make his sketch a composite picture, yet, in actual life no one case corresponds exactly with the type, no one individual perfectly resembles the composite picture.

The Importance of Accurate Diagnosis

It is not within my province to dwell upon the diagnosis of typhoid fever; your professor of practical medicine no doubt has instructed you carefully in this respect. Very likely he has told you that, while sometimes the diagnosis is easy and can be made early in the disease, it is difficult in others, and much valuable time may elapse before one is quite sure as to the real nature of the disease.

This was true to a much greater degree when I began the practice of medicine than it is today, and, hence, the need of such instruction may no longer be felt. For, by the aid of the methods of modern laboratory diagnosis, the number of uncertain cases is reduced to a minimum. Especially is this true if it is your fortune to practice in or near a large city, where you can avail yourselves of the advantages now uniformly found in large hospitals, you will be able to rely to a great extent upon these methods to aid you in diagnoses; and your results will, without doubt, be far more accurate and satisfactory because of these aids.

And, indeed, you will need to avail yourselves of the latest and best methods which science has placed at your command, in order that you may do your whole duty, meet successfully the sharp competition to which you will be subjected, and bring the largest possible proportion of your patients safely back to health.

But, if, on the other hand, it should fall to your lot to find your work in a sparsely settled country, where you are out of easy reach of the helps of which I have spoken, do not be downcast or discouraged because of these things. There are no advantages without corresponding disadvantages. Always when one end of the seesaw board goes down the other end goes up.

In the country, you will be farther away from help and, thus, will be obliged to depend upon your own resources. But, in compensation, you will develop self-reliance, independence of action, and an all-around versatility that does not characterize the specialist or the laboratory physician.

Therefore, I say, develop yourself according to your opportunities, and you will be able to meet the responsibilities of life as they come to you. And this means that you should gain a thorough understanding of the most improved methods of diagnosis as well as of therapeutics, and that in the treatment of disease you should bring to your aid every means within your reach.

The Old and the New Idea Contrasted

Typhoid fever is a specific disease, and its cause is a specific germ, the typhoid bacillus. The symptoms really are due to the presence of the bacilli in the blood—what might be termed a bacillemia. This condition is found at a very early stage and is continued throughout the disease. The intestinal lesions are centralized in the Peyer glands, but also are found in various parts of the intestinal tract. The glands in question are the site of entrance of the germs, just as the glands of the throat are the site of entrance of the bacilli of diphtheria; in either case the principal lesions existing at the point of entrance.

The fever is the most constant, as it is the most important, of the constitutional symptoms, and is present in virtually all cases, making its appearance at an early stage, often as the first symptom attracting the attention of the patient. Usually, however, the intestinal symptoms are early manifested, and these and the acidemia precede, and they also cause, the fever in every instance.

For the reasons named, remedies directed to the fever itself can not be relied upon to check it as long as the specific germs retain their activity. And, as the removal of the morbid cause is always more important than the treatment of the resulting symptoms, it is even more material that we should strike at the germ than to combat the fever.

A friend of mine, who was graduated from Harvard the year after I was from the University of Vermont, took for the subject of his graduating thesis "Typhoid Fever;" and in discussing the treatment he wrote as follows—this sentiment, he tells us, embodying the substance of the teachings he had received on this point: "The treatment of typhoid fever is devoted to one end, namely, to keep up the patient's strength till the disease has run its course. There is no drug which will lessen, cure or cut short the disease."

This statement has a most familiar sound and calls to mind the similar words of Osler with respect to pneumonia; raising, indeed, the question as to whether Osler took his ideas from Harvard or Harvard and Osler both drank from the same fount of knowledge. Undoubtedly the statement quoted represents the consensus of medical opinion of a generation ago. As for my friend, I am glad to be able to tell you that he has entirely repudiated those ideas and now advocates and practices something quite opposite to these pessimistic notions.

Expectant Versus Prompt Treatment

Perhaps the worst result of these teachings was the state of mind they engendered, leading, as they did, the practitioner of that day to make no endeavor to do anything for a fever, except to watch and wait until the disease was fully developed; and then the symptoms were treated, and the symptoms only, since according to the prevailing theory nothing could be done for the disease itself, either to cut it short, to cure it or even to lessen its intensity.

But, glory be! No such hopeless dogma hampers the action of the active-principle physician. The main desire of such a practitioner is, to get at the disease early—and the earlier the better. He does not even wait until the diagnosis is final and complete before beginning the treatment, but treats the symptoms as he finds them. It is true that he still has difficulty in getting his cases as early as could be desired, but, thanks to his persistent teachings in this respect, he certainly does get called to his patients much earlier than did the fathers.

Right here I want to impress upon your minds this one point, namely, that the most important point, the one thing which more than any other characterizes the active-principle treatment of typhoid fever and of all other acute disease, is *the early beginning of treatment*. This is in strict accord with the principles laid down by Burggraeve, the

founder of dosimetry, who declared that "dosimetric medicine rests essentially upon its power to jugulate those fevers in which all acute maladies have their inception." But only at their start can these maladies be aborted. *Therefore, begin early.*

Now, I do not claim that all cases of typhoid fever can be aborted, or even most of them—in the stage in which they usually reach us. But I do believe in the abortibility of fevers and other acute diseases; and that not merely as an ideal to be aimed at, but as a fact which can be actually accomplished in a considerable proportion of cases. And when we cannot succeed in cutting short the disease by early treatment, we can at least favorably modify the symptoms, prevent dangerous complications, shorten the duration, and lessen the mortality. If I did not believe this much, I should not have the courage to undertake the practice of my profession.

Great Promise in Bacterin Treatment

The vaccine, or bacterin, treatment of typhoid fever is one which promises great results, and although there is not yet a universal agreement as to the degree of its efficiency, from all indications it seems probable that with the further development of the method its value will be increasingly recognized.

As a preventive measure, its importance certainly is well established. Dr. George M. Gould declares that it renders an individual practically immune to typhoid fever for at least two years, is attended by no danger and by practically no inconvenience, and that exhaustive experimentation has proven it reliable. This is generally accepted as true, and it follows that antityphoid vaccine should be used in all epidemics, and also by all persons who are likely to be exposed to infection, such as are travelers in countries where pure water can not be obtained, as also soldiers and sailors in general. Indeed, it is largely through the experience of these latter classes that its value has been established. As a means of treating the disease once it is established, the place of the vaccine is not so firmly fixed, but seems, with each year, to be increasingly recognized. It does not interfere with other medical treatment, and when properly used it seldom does harm.

For these reasons it seems to me advisable, when the diagnosis of typhoid fever has been made, to administer the proper dose of typhobacterin, and repeat the same at proper intervals throughout the course of the disease; meanwhile continuing the usual medical

treatment. And here again we see the importance of beginning early; for all authorities are agreed that the earlier this measure is employed, the greater is the benefit likely to be derived from it.

The Essentials of the Treatment

The essential treatment which is relied on by the active-principle physician combines three elements: it is eliminative, antiseptic, and defervescent.

1. The treatment is eliminative, in order that the decaying and septic material in the intestinal tract, and throughout the system, may be removed, so far as possible.

2. It is antiseptic, in order that the entire intestinal tract as also the system in general may be rendered a less fertile soil for the growth and development of the specific germs.

Many sneers, without justification, have been thrown at the antiseptic treatment of typhoid fever, on the ground of the evident impossibility of securing absolute asepsis of the intestinal canal. But no friend of intestinal antiseptics, however ardent, has ever claimed that such a thing is possible.

On the other hand, however, no one has ever shown that the digestive tract, if it is cleared out at the beginning of the disease, and kept reasonably clear of the products of decay, and in addition is saturated and kept saturated with a nonpoisonous antiseptic agent, furnishes as good a soil for the growth and development of the typhoid or any other pathogenic germ as when these conditions are reversed. And this is all that the most enthusiastic friend of intestinal antiseptics ever has claimed.

3. It is defervescent, not only because the fever is a source of danger in itself, but because the rise of temperature is an indication of the severity of the infection; and, if it can be kept at a reasonable point, the danger is greatly lessened.

Remember that each case must be treated on its own merits. The patient himself must be treated as well as the disease, and no two are alike. The symptoms also must guide in the treatment, as showing where the most vulnerable points are to be found, which need the most urgent attention, and to which the greatest care must be given.

There should be no such thing as a routine treatment; still, there needs must be a general plan, but which must be modified as conditions may seem to demand. It is this general plan of treatment which I shall try to lay down, one which is adapted to the average case and can be modified as may be

needed. But, like the doctor who has seen only one typical case, you also may never see but one—or not even one—case to which the treatment I shall describe may seem the best adapted.

A General Plan of Treatment Outlined

The first thing needed is thorough elimination—cleaning out. If the patient is seen early, begin with a tablet containing 1-6 grain of calomel, 1-6 grain of podophyllin, and 1-12 grain of bilein. Give this every half hour for six doses. Two hours after the last dose has been taken give a full dose of a laxative saline. If needed repeat this every two hours until the bowels have been thoroughly cleaned out, ending with loose watery discharges. If there has been a preliminary diarrhea, it will take less to produce this result than when there has been constipation. But the clearing out is needed under either circumstance. As for the dose, the effect is what is needed. If much is required, give much; if little, give little.

When this result has been thoroughly secured, it is time for the next step, which is, to secure intestinal asepsis to the greatest extent possible. Here the agents to be employed, and which experience has shown to be the most effective, the safest, and the most reliable, are the sulphocarbolates of zinc, calcium, and sodium. These salts may be given either singly or, as more often desirable, the three combined. This remedy should be given in doses of from 10 to 30 grains every two to four hours, according to the severity of the attack. It is best given in solution, with a plenty of water. Or the tablet may be crushed or even given whole in some cases, but always with plenty of water to insure ready dissolution in the stomach.

Shaller says in regard to this procedure: "Where the evacuations are frequent and foul, 5- to 10-grain doses of any of the three sulphocarbolates or of the combined intestinal antiseptics not only checks the offensiveness of the stools, but lessens their number. As the presence of the sulphocarbolates in the intestines checks and prevents fermentative action, the high temperature of typhoid fever begins to decline and can be kept down by the administration of these remedies throughout the disease. . . . Treated on the above plan, typhoid fever will be of shorter duration than usual. Instead of running three weeks or more, patients are frequently up and about within two weeks. If this treatment is begun very early, the probabilities are that very few cases can run their full three weeks'

course. Calomel and the sulphocarbolates do certainly abort many cases of typhoid fever."

Abbott writes: "Not all cases pursue an eminently satisfactory course under the antiseptic method; but the severe forms become scarce, the abortive cases frequent, and the disease puts on a milder aspect. The sooner the antiseptic method is put in practice, the more decidedly will its good effects be manifested. If the case is not treated until ulceration has occurred or until the patient's condition is desperate, and the believer in antiseptics is then called on to demonstrate his miracles, failure is probable. The sulphocarbolates will usually prevent the dangerous conditions of the third week, but there are better remedies to promote the healing of ulcers, prevent perforation, and stop hemorrhage; also to combat pneumonia. But when they are given early in the attack, in the manner described, there is little to be apprehended in the way of complications and sequels."

Here again (pardon me for harping so persistently on one string) let me call attention to the stress which is placed upon beginning treatment early. When this is done, the dreaded complications seldom occur, while the doctor will be credited with having had to deal with only a light case of typhoid fever, or perhaps no typhoid infection at all. However, your patient gets the benefit, after all.

The laxative treatment should be repeated in full every few days, and a sufficient dose of saline laxative should be given every morning to secure one or two loose movements each day.

Steps in Combating the Febrile Condition

The next thing to be considered is the treatment of the fever. It should not be inferred, of course, that the institution of this treatment is to be delayed until the eliminatives and antiseptics have accomplished their work; rather, it sometimes is the first form of treatment to be undertaken, and, moreover, always to be begun early. Thus, the different forms of treatment are to be carried on together or the one or the other may have the precedence, according to the symptoms in each particular case.

The principal drugs to be relied upon for this purpose are: aconitine, veratrine, digitalin, and strychnine. It is sometimes objected that the first two of these drugs are sedatives and depressants, while the last two are tonics and stimulants—the two classes seeming to be antagonistic in their effects.

However, you will remember that in a previous lecture I explained the selective action of the cells throughout the system, whereby each cell selects from the general blood stream those things which are needed for its building up, and rejects those which are foreign to its needs; that, while this is true when only enough material for proper nourishment is absorbed, it nevertheless is possible to overwhelm or poison the blood-cells by an overdose, which forces them to take up more than the proper amount; that this rule holds with regard to medicines as well as to foods; and that in this way it is possible to use to the greatest advantage remedies of unlike and even to some extent opposing properties, provided only minimum doses are employed.

Fever and the Vasomotors

Along with this, you will remember the theory of the relation of fever to the vasomotor nervous system, as explained by Doctor Waugh, which was explained in the same lecture as the foregoing. He tells us that "acute inflammatory attacks begin with a disturbance of the circulatory equilibrium. The affected part fills up with blood, which distends the capillaries, whose walls, relaxing under the increased pressure, afford an example of relative vasomotor paresis, being abnormally weak in proportion to the pressure to which they are subjected. But, as there is no reason to suppose that the actual quantity of blood in the body has been increased, this overplus of blood in the distended capillary area indicates that there is too little blood in some other part of the vascular system. In other words, the vasomotor paresis in the hyperemic area is exactly compensated by a vasomotor spasm in some other vascular area."

Now, the normal equilibrium of the circulation in these cases may be restored in either or both of two ways: by increasing the tonicity of the dilated vessels or by causing those which are contracted and comparatively empty to relax and dilate, or by both acting together. But, this is just what we undertake to do in the treatment of fever by the methods that are adopted by the active-principle medicationists. Contraction in the dilated areas is secured by means of the vasomotor tensors, strychnine and digitalin; and relaxation in the contracted areas is obtained of the vasomotor relaxants, aconitine and digitalin. By either of these means, but best by both carried on together, the restoration of circulatory equilibrium is secured—and this is the great object to be attained.

The basic prescription for fever, therefore, would consist of aconitine and digitalin. Aconitine inhibits the rapid action of the heart, slows and regulates the pulse, lessens the vascular tension, and lowers the temperature. Digitalin also inhibits the action of the heart, which it slows and strengthens, meanwhile restoring vascular tension where it is wanting. To these two agents, Burggraave added strychnine, which is the most powerful vital incitant we possess, energizing every organ and function of the body, and especially combating that tendency to weakness and debility which is common to all febrile diseases and increases with each day of their continuance. This happy combination of drugs is known as the dosimetric trinity, and is especially adapted to the asthenic forms and stages of fever.

To the basic prescription of aconitine and digitalin, Abbott added veratrine, constituting what is known as the defervescent compound. This addition of veratrine increases the inhibitory power of the combination, slows the pulse, and opens every door of elimination, so that it is one of the most effective agents for the removal from the body of the various toxic products, whether of infectious agents, morbid metabolism or from absorption from the alimentary canal.

When Aconitine, When Veratrine?

As an agent in the treatment of fever, aconitine is the preferred remedy in children, in ephemeral fevers, and in the earliest stages of fevers in asthenic forms. Veratrine is the remedy of choice when the case is sthenic in its nature and the pulse full and bounding. But when the patient is debilitated, markedly asthenic or the disease is one which in its ordinary course leads to great weakness and debility, especially heart weakness, then the trinity granule of aconitine, digitalin, and strychnine is to be used from first to last. But in a disease like pneumonia, when it is desired to secure quick results and the patient is plethoric and full-blooded then the defervescent granule is the thing.

Furthermore, in the different stages of the disease, we often change from the one to the other combination as the symptoms may change. Moreover, when it is especially important to reduce the fever quickly in a patient who has a good heart and is not debilitated, this result may be obtained by the use of the coal-tar products acetanilid or acetphenetidin more quickly, although with greater danger and less permanently, than with the defervescent alkaloids.

Remember that the doses of the tonic alkaloids, strychnine and digitalin, are not such as to stimulate powerfully, not such as to serve as a whip to the tired horse, but rather such as to afford proper support and prevent exhaustion of the vital forces. Much can be done by the proper use of these remedies to prevent the more dangerous complications and sequelæ which under other circumstances often make their appearance and sap the vitality of the patient.

The trinity granule may be given with safety every hour as long as may be needed. The aim should be to keep the temperature below 102 degrees or as little above that figure as possible. And when the fever is gone, and the aconitine, therefore, no longer is needed, while support for the heart and nervous system is still indicated, then drop the single granule, and substitute in its place the granules of strychnine and digitalin, every hour or two hours for as long as may be needed.

I believe that this treatment, thus briefly outlined, is superior to any other with which I am acquainted for the essential fever process under whatever circumstances occurring. Of course, other agents may be added as indicated, and other methods may, in rare instances, be preferred. It is, however, a method simple, easy of application, and satisfactory in result to a greater degree than any other I have ever made use of.

We now have considered the medicinal treatment of typhoid fever under the four heads of bacterial vaccines, eliminative treatment, antiseptic treatment, and antiphlogistic, or febrifuge, treatment. It remains to consider the general care of the patient.

General Management of the Typhoid Patient

From the onset of the illness, the patient should be confined to the bed, which when possible should be in a large, well-aired and pleasant room. No room in the house is too good for the sick-room. "Walking cases" of typhoid fever, so called, are proverbially dangerous; the danger arising largely from the exposure and undue exertion necessarily involved as well as from the lack of proper care in other respects. Strict cleanliness should be observed in all things. Disinfection of the room itself, the bed, bedding, and all the clothing, as well as of the discharges, should be scrupulously carried out. Many agents are used for this purpose, but perhaps no single one better meets the requirements in most instances than chloride of lime.

It is the practice of most physicians to restrict the patient to a liquid diet during the continuance of the fever. This may include milk, rice- and barley-water, fruit-juices, bovine, beef-juice, white of egg, malted milk, and so on.

Baths should be administered both for cleanliness and for the comfort of the patient. They may be hot, cold or tepid, according to the judgment of the physician or the desire of the patient. The use of cold baths to control the fever is highly recommended by good authorities, but as a matter of fact, they are better adapted to institutional work than to private practice, and have never been as much used in this country as in Germany.

Aiding the Defense

Nuclein may be used with advantage to strengthen the defensive forces of the system, and echinacea to aid in bringing about systemic asepsis. In the severer forms, and especially where treatment is begun late, baptisoid sometimes is a valuable remedy. The special indication for this drug is a brown or purplish discoloration of the tongue and mucous membrane of the mouth, with a congested face and deep-red tongue. Quinine arsenate sometimes is desirable for its tonic effect. Caffeine acts as a valuable diuretic and brain and nerve stimulant. Codeine may be needed to quiet irritated nerves and induce sleep. In exceptional instances, morphine, hypodermically, may be required for the relief of severe pain. In the active-principle treatment of typhoid fever there is no place for alcohol.

When ulceration has occurred and serious symptoms are present—usually about the third week—threatening perforation, oil of turpentine is the standard remedy. When this is given in 5-drop doses every two to four hours, in capsule or in an egg emulsion, it is a usual thing to see the tympanites quickly subside, the tongue become moist, and the stools assume a healthier character.

For hemorrhage, the best remedies are: ice to the abdomen, silver nitrate in small doses up to 1 grain in a day, and atropine hypodermically, in 1-100- to 1-50-grain doses and repeated so as to keep the blood at the surface. Emetine hydrochloride, in 1-2- to 2-3-grain doses, hypodermically, has recently been advised for the treatment of hemorrhage and deserves a careful trial.

Perforation of the intestine is perhaps the most dangerous of all the complications and calls for the prompt opening of the abdomen and resection of the diseased portion of the intestine. But when the case is treated anti-

septicaemia from the start perforation seldom will occur. The same is true of the various other serious complications.

I feel that I ought to ask your forbearance for so constantly iterating and reiterating, with what must seem persistent and needless frequency, the laws of active-principle therapeutics to which, you may think I have been paying more attention in this talk than I have to the treatment of typhoid fever. The reason is, that I am not teaching you the practice of

medicine, for I know that you will get better instruction from your regular professors than I could give you if I were to attempt it. What I am endeavoring to do is, to impress upon your minds, in a way to last for the rest of your lives, the more striking features of a method of therapeutics which is comparatively new to most of you and concerning which you look to me to tell you more than you will be likely to get from anyone else in your present studies.

Lavage of the Bladder at the Bedside

By BENJAMIN H. BREAKSTONE, B. S., M. D., Chicago, Illinois

Professor of Surgery, Bennett Medical College, Medical Department Loyola University; Attending Surgeon Maimonides Hospital; and at the Jefferson Park Hospital

EDITORIAL NOTE.—*Doctor Breakstone has promised us several more of the interesting articles upon "Every-Day Surgery" which were such a feature in CLINICAL MEDICINE several years ago. This is the first of the new series. Ultimately they will be reprinted in book form. This is surgery of a kind that every doctor can understand and use.*

IN THIS paper I wish to outline my method of washing out the bladder, one that can be employed anywhere in the ordinary sick-room. No elaborate apparatus is called for,

of any glass vessel, extending from the mouth of the container to the bottom, and with the aid of an ordinary milk-measure or any other measure, such as is found in any average household (even small medicine-bottles may help out), the container may be graduated and marked off on this strip of adhesive plaster. Or even a strip of white paper or muslin may be pasted on

The funnel should be of a capacity of 4 ounces and should taper down to a diameter of about one-third of an inch, so that it may fit into the rubber tubing. In the absence of a glass funnel, one of tin, enameled ware or paper will do, or one may be fashioned out of cardboard.

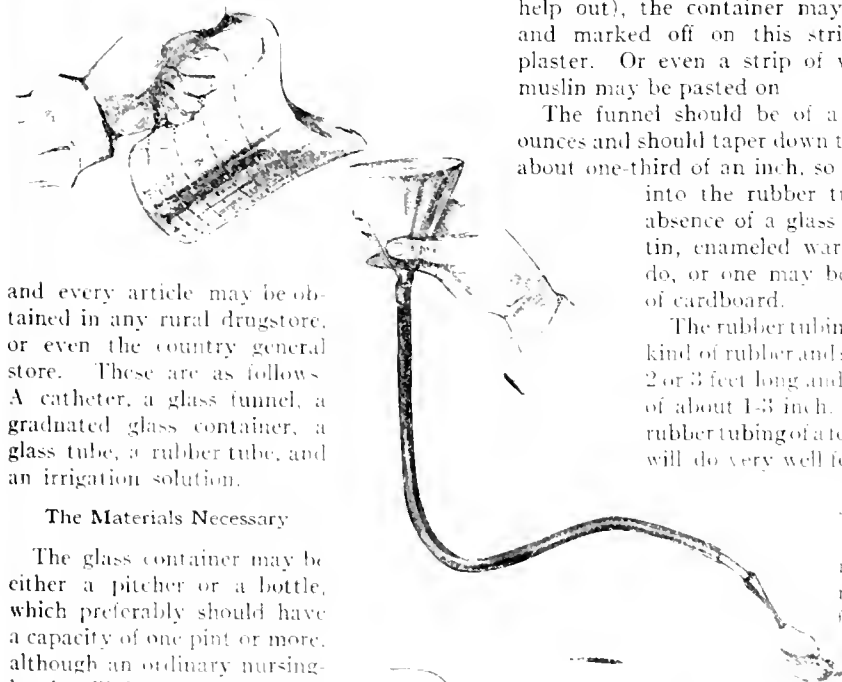
The rubber tubing may be of any kind of rubber and should be about 2 or 3 feet long and have a caliber of about 1-3 inch. The ordinary rubber tubing of a fountain-syringe will do very well for this purpose.

The catheter should be size 10 F. and of rubber for the male, but glass for the female

and every article may be obtained in any rural drugstore, or even the country general store. These are as follows: A catheter, a glass funnel, a graduated glass container, a glass tube, a rubber tube, and an irrigation solution.

The Materials Necessary

The glass container may be either a pitcher or a bottle, which preferably should have a capacity of one pint or more, although an ordinary nursing-bottle will do. In the absence of a graduated container, a narrow strip of adhesive plaster may be put on the outside



Dr. Breakstone's Method of Washing Out the Bladder

The solution most frequently used is the saturated solution of boric acid; others are those of potassium permanganate in strengths from 1 : 1000 to 1 : 10,000, and of mercury bichloride, 1 : 5000 or weaker.

The Technic of the Method

The patient should be lying either on the bed or on a table, and by percussion we should first ascertain the amount of fluid in the bladder. The apparatus having been sterilized, either by boiling or by soaking in hot saturated solution of boric acid for some time, the external genitals of the patient are then rendered aseptic in a thoroughly surgical manner; so also are the operator's hands. Now the parts of the apparatus are connected carefully, avoiding contamination.

If the bladder is empty, the apparatus is filled with the solution to be used, before the catheter is introduced into the bladder. This prevents air from entering the bladder through the apparatus. If a rubber catheter is used, as is the case in the male, vaseline or other oily lubricant should be avoided, as oily substances attack the rubber. Therefore, glycerin or a glycerin plasma is used for this purpose. If the bladder is fairly full, the catheter may be introduced first, when the urine contained in the bladder will expel the air contained in the tubing. However, it is always much safer first to fill up the apparatus before introducing the catheter into the bladder.

The patient, under circumstances, may assist the operator in holding the catheter in place after it has entered into the bladder. Then, with his left hand on the funnel, the operator may handle the container with his right hand and pour in the solution. The patient is the best guide here as to the amount, for he knows when his bladder is overfilled and can so inform the operator.

Advantages of the Method

The advantage of this simple apparatus is that by raising or lowering the left hand holding the funnel the degree of pressure may be regulated at will. Furthermore, through the glass tubing connecting the catheter with the rubber tube we may see what goes in and what comes out of the bladder. The bladder may be emptied repeatedly and rewashed until the solution comes out clear. We can also see whether the solution is changed in color, transparency or density. By raising and lowering the funnel, we fill and partially empty the bladder as though we were washing a bottle with our thumb on the opening and letting water run in and out of it. We can also measure with this apparatus the amount of solution used and therefore can also ascertain the capacity of the bladder.

This entire operation is absolutely painless. I have been using this apparatus for more than sixteen years and prefer it even in my office, on account of its convenience, its compactness, and the ease with which it may be sterilized.

THE LOST DAY

By GRACE G. CROWELL

To night I know that I have lost
Somewhere between the far sunrise
And this the dark, a jeweled day
That God had given me to prize.
I lost it, for I failed to note
The tender beauty of the dawn,
I failed to breathe the sun-drenched flower,
Before the sweet, wet dew was gone.
I failed to turn my cheek to catch
The cooling breeze I needed so;
I did not pause to note the while
How wondrously the new leaves grow
For all the day was full of cares,

I only looked me down to see
The briars that beset the way
To hold and fret and hinder me.
But now tonight, O Lord, I lie
And see with weary, world-tired eyes
The tranquil splendor of the night,
The wonder of thy lighted skies,
And know some better thing is mine
Than this lost day,—and I will go
No more forgetful of Thy way
Nor walk no more with eyes cast low,
But looking,—live and laugh and sing,—
Knowing Thou would'st have it so.

The Treatment of Syphilis

As Modified by Recent Advances in Therapy

By G. FRANK LYDSTON, M. D., Chicago, Illinois

Author of "Diseases of Society," "Genitourinary, Venereal, and Sexual Diseases," "Sexual Hygiene for the Male," etc.

[Concluded from February, page 132]

Syphilis of the Viscera, the Brain, and the Nervous System

The treatment of syphilis of the viscera is, in general, the treatment of constitutional syphilis. Certain special organs and structures require particular consideration, because of the importance of their function and the delicacy of their structure, which make it urgent to remove the syphilitized cell infiltration and correct the local syphilitic toxemia as quickly as possible.

The reason for this is obvious—the more extensive the cell deposit, the severer the local intoxication; and the longer the process is allowed to continue, the greater the resulting nutritional damage, and the greater the amount of cicatricial deposit sequential to the syphilitic lesion.

In all lesions of the cerebrospinal axis, the system should be brought under the influence of mercury as quickly as possible—this irrespective of whether salvarsan is used or not. Where the use of salvarsan and mercury can be combined, rapid remedial action is doubly certain.

Mercury may always be given intravenously in emergencies. If the practitioner is not familiar with this method, intramuscular injections are safer, and act quite rapidly when the drug is rapidly pushed to the point of tolerance.

When the case is not urgent, inunctions give the best results. In urgent cases of brain and cord syphilis, salvarsan also is indicated. The difference of opinion as to its safety in such conditions sometimes should have little weight, because matters are so serious that the patient has everything to gain and nothing to lose from the administration of the drug. If matters be urgent, the intravenous method may be employed. Where delayed and less immediately powerful action is warrantable, the intramuscular method should be employed.

In the author's opinion, the objections offered to the use of salvarsan in syphilis of the brain, cord, and retina apply chiefly to the intravenous method.

Syphilis of the retina is best treated with mercury by the intravenous method. Salvarsan is not contraindicated, in early cases, in the author's opinion, if used intramuscularly.

In all cases involving the eye and ear or nasal cavities, it is wise to have the cooperation of a competent specialist, who not only can advise as to the local physical condition, but also as to the progress of the case under treatment. Special skill also often is required for the local management of the case.

Locomotor ataxia in its incipency occasionally apparently is cured by mercury and iodine, supplemented by mercury. Late cases, also, are benefited in a small proportion of cases.

The author will not discuss the efficacy and safety of salvarsan in tabses, but will merely ask this question, viz.: Where the diagnosis is clear, what is there to lose by a radical attack on the disease with all the therapeutic weapons at our command?

The author believes that he has seen an occasional cure and many cases where the disease apparently has been checked by vigorous treatment. The trite argument of spontaneous remission of the disease will, of course, be advanced here, and the author will admit its cogency in general, always providing it be not allowed to suggest a policy of dilatoriness in the management of the disease. I do not object to any sort of theory that does not conflict with the best interests of the patient.

Syphilis of the Kidneys

Syphilis of the kidney requires special mention, on account of the danger incurred by the use of salvarsan.

The intravenous administration of mercury probably is safe in renal syphilis, but it is wiser to use the drug by inunction or intramuscularly, until the renal condition has cleared up. Albuminuria is not infrequent in syphilis. It usually is charged up to the treatment; but, in my opinion, this rarely is justifiable.

The brilliant success sometimes obtained in the treatment of supposed "Bright's" by

antisyphilitic treatment is very suggestive. The author has met with cases of this kind that would have been a useful object-lesson for the therapeutic nihilist, as well as for the physician who underrates the etiologic importance of syphilis in renal disease.

Iodide of potassium in increasingly large doses, carried to the point of physiologic tolerance, is useful in syphilis of the nervous system and viscera. It meets the indication of breaking down, removing, and eliminating the syphilitic newgrowths and eliminating syphilotoxins.

With increasing knowledge of the action of salvarsan, large doses of iodides will be less popular. Whether iodine or salvarsan be used, however, mercury should be the mainstay of treatment. It is permanently curative in action, the other drugs being emergency remedies, and useful in meeting temporary indications.

Brain and visceral complications are infrequent where syphilis is thoroughly and conscientiously treated, and for a proper length of time. With salvarsan and the intravenous method of administering mercury, employed in the incipency of the disease of the special structures, the prognosis of such special syphilitic involvements should be far better in the future than it has been in the past.

Syphilis of the Genitalia, and Other Localizations

In syphilis—secondary and tertiary—of the sexual apparatus, of either sex, it is very essential to prevent destruction of tissue by prompt and effective constitutional treatment. Great care should be exercised in suspicious growths or uniform enlargements of the testes. Syphilis of the testes often is mistaken for malignant disease. In doubtful cases, salvarsan and mercury should be given. What has been said of the testes applies equally to the female genitalia.

Bone-Syphilis should be treated like any other form of lesion. Surgery, however, often is necessary to supplement our strictly medicinal therapeutics. Patients sometimes are dosed to the very verge of the grave, in the irrational attempt to cure carious and necrotic bone lesions in which operation, as a supplement to drugs, would achieve most brilliant results.

Severe osteal or periosteal pain often may be relieved and bone-tissue saved by incision into the periosteum or even into the bone itself.

Salvarsan is of especial service in bone-syphilis, enabling us to save bone which

otherwise would be lost. It is of signal service in cases where the injudicious action of mercury is suspected or known to be an etiologic factor in the bone lesion.

Congenital and Infantile Syphilis

The remedies for congenital and infantile syphilis are the same as for the acquired and adult forms of the disease.

Great care is necessary in children where salvarsan is used. The intramuscular method is best, small doses being used. The dosage in general should be apportioned to the age of the child, just as would be the dosage of any other drug.

Mercurial inunction probably will continue to be the simplest and most reliable method of treating syphilis in children, salvarsan being used as an adjuvant.

The gray powder, hydrargyrum cum creta, is as useful now as before salvarsan was introduced, and probably will always be one of our most valuable remedies in syphilis in women and children, because of its satisfactory action and the tolerance of the preparation exhibited by the most delicate stomach and bowel. The administration of mercury, salvarsan, and particularly of iodide of potassium by the breast-milk of the mother, to whom full doses of these drugs may be given, is one of our most useful therapeutic resources in syphilis in small children.

The treatment of parasyphilis is that of definitive syphilis.

As our means of diagnosis are not infallible, and it often is difficult to say where active syphilis ends and parasyphilis begins, it is well not to split therapeutic hairs when the question of treatment comes up.

Local Treatment of Syphilitic Lesions

The treatment of chancre has already been considered. Gummata may require excision or curettement. Necrosed bone should be removed and carious surfaces scraped. Ulcers may require curettement or cauterization.

The following is an excellent application for ulcerative and squamous syphilides:

Hydrargyri bichloridi.grs. 20
Tinct. benzoini compositæ.oz. 1

Collodion or celluloid cream may be used in lieu of the benzoin tincture. The proportion of mercury may be increased or decreased.

Pure tincture of iodine and finely powdered iodoform often are of great service in syphilitic ulcers.

Mucous patches demand freedom from irritation. Smoking and chewing are especially

injurious and often responsible for mucous lesions of the mouth and throat. The best remedy for mucous patches is acid nitrate of mercury, lightly applied. This remedy sometimes is of great service in skin lesions.

Iodine also is useful in mucous lesions. The tincture should be used. Pure tincture of iodine is useful also as an application to the gums in mercurial stomatitis.
32 N. State St.

The Medical Treatment of Appendicitis

By **RAOUL L. VIORAN, M. D.,** Chicago, Illinois

EDITORIAL NOTE.—Here is a novel therapeutic idea. Whether you agree with Doctor Vioran or not you will want to understand his plan. It will set you thinking.

IT MAY seem presumptuous, in view of the prevailing opinion of the medical profession, even to suggest that there are cases of appendicitis in which medical intervention is to be preferred to surgical operation; yet, I shall take the risk of being anathematized by my surgical brethren and submit a method of medical treatment, in these cases, which I frequently have found valuable in the treatment of appendicitis. I believe there are many cases, when they can be accurately diagnosed, in which the complete subsidence of all symptoms can be insured and a clinical cure obtained without recourse to surgical measures.

While I cheerfully acknowledge that surgery has done much to reduce the percentage of deaths from appendicitis, it should not necessarily be assumed that every form of medical treatment is useless. If we eliminate the infantile cases of appendicitis in which the diagnosis is doubtful, the infectious cases of appendicitis due to typhoid fever, influenza, scarlet-fever, and so on, the traumatic cases, and the secondary appendicitides due to disease of the uterus, fallopian tubes, and ovaries; if we eliminate, finally, those produced by the impaction of foreign substances within the appendiceal canal, there still remains a large number of cases characterized by preceding or coexisting gastric disturbance, such as constipation, hyperchlorhydria, distention of the stomach, or a tendency to fermentation.

Anent the Etiology of Appendicitis

According to a theory largely held in France, and which seems to the writer scientific as well as sensible, the etiology of this class of cases can be summarized as follows:

The chyme, when it leaves the stomach, has an acid reaction, due to the presence of hydrochloric acid. Upon entering the duodenum, this acid secretion, through its hormones,

causes a stimulation of the secretions of the pancreas, liver, and Brunner's glands. These secretions, when brought into the intestine, neutralize the acid chyme and stimulate the activity of the intestinal ferments; these ferments being active only in an alkaline, neutral, or slightly acid medium.

When this flow of alkaline secretions is insufficient, the intestinal ferments are inactive and the intestinal mucosa is irritated by contact with the acid of the stomach, a protective mucous secretion is thrown out by the mucosa, and the condition results which, in exaggerated form, is known as mucomembranous enterocolitis.

Moreover, the food-material remains undigested and accumulates in the cecal and iliac fossas, producing, primarily, obstruction, and, secondarily, an inflammatory reaction, one consequence of which is the disease we know as appendicitis.

And furthermore, in this condition of intestinal irritation and indigestion, if the stools be examined, we find that, instead of the three or four percent of nitrogen normally found, the quantity is increased to ten or twelve percent; in other words, there is an accumulation of nitrogenous material in the feces, material that is known to be putrescible and toxic. In addition to this, the fecal mass will be found to contain a large quantity of insoluble mineral salts, often in the form of deposits of intestinal sand, this quantity often reaching as high as thirty percent of the salts ingested.

Such a condition necessarily must result in the production of decided intestinal irritation, especially in the cecal region. As an illustration of this tendency, it may be said that in 1600 cases of gastric disturbance such as we have described, 83 cases of appendicitis occurred, or more than 5 percent.

In résumé, the etiology may be summarized as being due to: (1) hyperesthesia to the

irritating toxic substances resulting from gastric hyperacidity; (2) to the large quantity of mineral matter, mixed with fecal matter, stagnating in the cecum; (3) to the calcareous infiltration of the appendiceal mucosa, with occlusion of the appendiceal canal by inflammatory infiltration of its submucosa.

Microbic infection is to be considered as secondary; and only in cases in which it actually does occur should recourse to surgical intervention be considered as absolutely essential. In other words, every case in which there are no signs, subjective or objective, of microbial infection, is a medical one and will respond to rational treatment of a specific character.

Treatment at the Critical Period

Now as to the treatment of the appendiceal crisis, that can be summarized in Dieulafoy's classic epigram: "Absolute rest; liquid diet; the ice-bag."

Opium should be rejected as dangerous, since experience teaches us that it tends to immobilize the intestine, thereby increasing the stagnation and retention of toxic and irritating waste in the cecal region; and because it also interferes with the establishment of a correct diagnosis.

In the light of the etiology of these cases, and in marked contrast with present-day teachings and practice, I advocate the use of purgatives in suitable cases. Properly given, purgatives never have failed me, neither have my patients succumbed. And for this purpose I prefer calomel, in 1-grain doses every hour until six doses have been taken. In milder cases (those in which the constipation is not marked), I use castor-oil, prescribing it as follows:

Extracti belladonnæ	gr. 1-6
Olei ricini	oz. 1

This is to be taken at a single dose. The extract of belladonna renders the action of the castor-oil less severe.

After the bowels have been emptied—and not until then—I apply the ice-bag to the abdomen. Then, when the bowels have been thoroughly evacuated, I direct the patient to take the following, which is to be used when there is the slightest gastric or abdominal pain or even a feeling of pressure:

Codeinæ sulphatis	gr. 1-6
Calcii carbonatis precip.	grs. 8
Bismuthi subnitrat	grs. 8
Sodii bicarbonatis	grs. 15
Sacchari lactis	grs. 30

This makes one powder, the entire powder to be taken at one time. Such a dose may be given every hour for as long as is necessary.

In cases in which the purgative has not produced the desired effect or the emptying of the bowel is retarded, I order a high colonic flushing; using for this purpose one quart of water at a temperature of about 100° F., to which I add from 5 to 6 drops of tincture of belladonna [Why not atropine?—ED.] and 1 ounce of olive-oil. When there is no intestinal spasm, but atony, I substitute, for the belladonna, tincture of salvia, using about 10 or 12 drops.

It is important that the enema be not given under high pressure or too rapidly. I instruct the attendant to elevate the fountain-syringe not more than eighteen inches above the bed level and tell him to administer the injection very slowly and with great care. The rectal tube must be of soft rubber, perfectly clean, well oiled, and introduced as far as possible.

I have also found it useful in many cases, before applying the ice-bag, to anoint the right lumbar and inguinal region with the following unguent twice a day:

Extracti belladonnæ	15.00 (oz. $\frac{1}{4}$)
Unguenti hydrargyri	45.00 (oz. $1\frac{1}{2}$)

In cases in which the above instructions have been carried out carefully, yet, in spite of them the patient experiences sudden and severe pain, either constant or intermittent, I prescribe the following:

Codeinæ sulphatis	grs. 1 1-2
Extracti gentianæ	drs. 15

Make into 10 pills. Directions: Take one pill every four hours, as necessary.

When there is a protracted constipation and the purgative has failed or if small hard scybalæ follow the flushing, I keep up the enemas (one every six hours) and discontinue the administration of purgatives by the mouth.

The physician should always give close attention to any rise of temperature. Usually this will subside after the thorough evacuation of the bowels. However, should the high temperature persist for more than twenty-four hours after free bowel evacuation and give the patient discomfort, it is advisable to administer a deep hypodermic injection of 10 Cc. of metallic-silver ferment, rendering this isotonic, at the time it is to be injected, with 1 Cc. of a 7-10-percent sodium-chloride solution.

As long as the patient has the slightest sensation of pain or discomfort in the appendiceal region, even though the fever has entirely subsided, he should remain in bed, to insure absolute rest, and the same strict discipline maintained as to liquid diet and

ice over the right middle and lower quadrant of the abdomen.

When all the symptoms have disappeared, I put the patient on a milk diet, increasing the quantities daily. This diet I continue for ten to fourteen days, and then begin to allow gruels, soups, and the usual semiliquid foods; gradually changing from these to a solid diet, but instructing the patient to eat as little meat as possible and to use more vegetables, fruits, and pastry.

To keep the intestines in a normal condition and bring about a gentle but, yet, regular bowel evacuation, I prescribe

Sodii sulphatis	dr. 1
Sodii phosphatis	dr. 1
Sodii bicarbonatis	drs. 2

M. for one powder.

Sig. Dissolve the entire powder in one quart of boiling water and give a wineglass three times a day. This mixture should be sipped, one wineglassful being taken upon rising, one after lunch, and the third upon retiring. Before using it, the bottle should be warmed by dipping it in a vessel of hot water. If one glassful at a dose does not give the desired results, the amount should be increased. If diarrhea should follow, the quantity is to be reduced. The regular evacuation of the bowels is one of the most essential elements in the treatment of appendicitis.

The patient must be kept under surveillance for weeks or months after such an

experience, according to the severity of the attack and the response of the condition to treatment.

In advising surgical measures, I am guided by three indications; namely: Operation should be resorted to (1) in case of relapse; (2) in complicated appendicitis, that is, when there is abscess, peritonitis, septicemia or any condition unamenable to medicinal therapy; (3) when the patient is not in a condition to carry out the instructions given him for his behavior during or subsequent to the attack, whether this inability be due to indifference, occupation or financial resources.

Surgery has its proper role in the treatment of appendicitis and it should be resorted to as soon as medicine has proved its futility or the physician has detected indications of imminence of danger. Yet, in all modesty and with a seriousness that is based upon a large personal experience, I am one of those who believe that appendicitis as a rule is a disease to be treated by the internist, and that cases of this kind are to be handed over to the skilled surgeon only after medicinal treatment has shown that it is of no avail.

[The ideas presented by Dr. Vioran are most interesting. If he would replace his galenic preparations (belladonna, for instance) with alkaloids and bring out strongly the value of intestinal antiseptics in these inflammatory conditions of the ileocecal region, we would be pretty nearly in accord.—ED.]

Some Fallacies in Regard to Contagious Diseases

By JAMES E. STUBBS, M. D., Chicago, Illinois

EDITORIAL NOTE.—Doctor Stubbs is a good deal of an iconoclast, but his iconoclasm is so strongly saturated with common sense that it is hard to escape from his conclusions. The problem that he raises is this: Is our present method of combating the spread of the contagious diseases founded on sound scientific reasoning, or is it the survival of an old superstition? What do our readers think? We want their opinions.

(Continued from page 154, February issue)

How Is Cerebrospinal Meningitis Conveyed?

THERE is another disease—when in a malignant form, dreaded by physicians and laymen alike—which gathers to its credit in the cities of the silent majorities its thousands; I refer to cerebrospinal meningitis. Whence cometh it, and how propagated and disseminated? Again I quote from *Progressive Medicine*:

"In cerebrospinal fever, I have never known of a case carried in fomites from one person

to another." We, the genus homo, are the reservoirs of the disease. It is with us and in us, there it propagates and multiplies as its natural habitat. "Meningococcus has never been found outside of the human body, apart from culture or in experimental animals, and it is highly probable that the only habitat is the human body. It probably multiplies in the human body and lives but a short time when separated from it." The same may be said of nearly all of the cocci and bacilli that are pathogenic.

It is quite probable that the site of infection is the nasopharynx. This is inferred from the common occurrence of the meningococcus found in that locality in the early stage of the disease, because it has been demonstrated at this point in carriers.

"That which cometh out of the mouth this defileth man."

"The source of infection would seem to be: (1) those individuals who are suffering from cerebrospinal fever, and (2) the carriers, the human reservoirs. It is quite possible that the pathogenic organism is transmitted from one person to another by such contact as ordinarily occurs between people together; that is, by transferring secretions by kissing, by the use of the handkerchief or towels, the soiling of the fingers with the secretions, and so on." (*Progressive Medicine*.)

Some are more susceptible than others to diseases; just why, is unknown at the present time. It may be that the opsonic index is better in one than in another. Two are working in the field, one is taken, the other left. Why? It is impossible to control diseases unless you know where the reservoir is located. If that is the human body, how are you going to destroy it?

There has been no new germination since creation began. John Tyndall, the scientist, said, forty years ago, "There is no such thing as spontaneous germination." The germs of scarlet-fever can not produce measles nor any other disease. "Every disease has its distinct individual germ, and the scales of measles do not seem to be infectious at all, and the same may be said about scarlatina. When convalescence sets in, there is a marked reduction, if not total loss, of infectivity from the nasal and mouth secretions." (*Progressive Medicine*.)

As the human body seems to be the reservoir of scarlet-fever, measles, cerebrospinal meningitis, poliomyelitis, and so on, little is accomplished by closing schools, churches, and public gatherings, for as soon as all the susceptibles, or nearly all, have had the affliction the disease declines, and when spring comes, then tubercula, variola, varicella, scarlet-fever, whooping-cough, mumps, meningitis, and so on, are stamped out until a new crop of susceptibles grow up to have the disease and get immunity from further molestation. Thus it has been for all past time, and, so far as scientific proceedings are concerned, it will continue in the future, *ad infinitum*.

Poliomyelitis, if it is caused by the bite of the stomoxys calcitrans, i. e., the stable-

fly, and the fly gets the virus from the horse, then the horse must be the reservoir. Kill all the horses, and that ends poliomyelitis. Bad job!

But I have serious doubts as to the stable-fly being the carrier or the vaccinator, as I have met these pestiferous little flies in very many different places a long way from the stable or horses, have been bitten by them times without number, and also have seen my boy friends and adults bitten by them, and as yet have never seen a case of that disease nor have I ever heard of a case among those who were bitten by those little pests. I think we shall have to look further for the reservoir and the carrier.

We are too apt to accept statements made by some research-worker or some shining light in the medical profession, as absolute facts and unchangeable, when they are only giving an opinion, which opinion always is subject to a revision or to being entirely discarded. We, all of us, do not examine for ourselves as we should before swallowing such matter at one gulp. Just wait a reasonable time to have these ipse-dixits verified by experience. Do not chase after flash-lights, ignis fatuas or fire-flies; for, if you do, you frequently will find yourself in dismal swamps.

The virus of poliomyelitis has been found in the secretions of the mouth and intestines of convalescents and healthy individuals.

"The fact has been established that in man the nasal mucous membrane is the site of the ingress and egress of the poliomyelitis virus." (Flexner.)

To the uninformed and superstitious, the bogeyman stands behind the big red card tacked up on the front or main entrance of our domiciles.

Whence Comes the Spotted-Fever?

The once mysterious mountain-fever has been traced to the tick, a pest of the bovines; so, also, the spotted-fever. When the Lord sent all manner of flies, and lice and bugs, to afflict the Egyptians, he should have sent the tick and the tsetse-fly also; that would have made them repent in haste or be wiped out of existence.

Now, where is the reservoir from whence these insects get their poison? According to Colonel Bruce, in the case of the tsetse-fly, this gets it from the blood of some animal that is infected with trypanosoma. Probably the same holds good in relation to the tick in this country.

Now, the bites of these insects are absolutely

of no effect on man or lower animals until they themselves become infected. But whence the infection? Where stored? Where is the reservoir? That there is one, cannot be doubted. There is no such thing as these germs starting *de novo*.

The higher animals, including man, are the reservoirs. Man becomes infected (how?) with the germs that the mosquito sucks into his stomach, and then these germs undergo a change or development, so that when they are injected by the mosquito into the blood of an unimmune man or mammal, there is developed, by natural process, the condition of yellow-fever. The same holds good in malarial fever; only the plasmodium malaria does not immunize the individual so as to protect him from further attacks. The same process takes place in "neguna," or sleeping-sickness. The tsetse-fly taps the reservoir, which, in this case, are the quadrupeds of Africa.

Perhaps some of our roving nimrods will bring us a few tsetse-flies in their clothing or baggage, and then they will start some reservoir among us by inoculating our bovines.

Our Epidemic of Scarlet Fever

Germs must be alive to propagate their like. Who or what are the carriers in these suppressed diseases? Just now we are having cases of variola. Whence cometh it? Surely, you can not give that which you do not have. Also, we are having an epidemic of scarlatina and of rubeola. These diseases were not prevalent in September, 1912, in anything like an epidemic. Now, why should scarlet-fever appear suddenly in December, 1912, as an epidemic? For it has been in all parts of the city of Chicago. There must be a reservoir, or reservoirs, somewhere, for there is no such thing as spontaneous germination. No germs *de novo*—then the virus of these diseases must be dormant somewhere.

Every case of scarlatina begins with a streptococcus throat infection. It may be very mild or be severe. If the former, then the skin rash is mild; if the throat is badly inflamed, then there is a rough, red skin and kidney involvement. Streptococcus sore throat, laryngitis, starts in a family, and all will have it in some degree. If there are one or two among the inmates who are not immune to scarlatina, then they will have that disease.

Every year there are added to the body politic in this city, as a natural increment, thousands of unimmune. They will all

have to have these diseases sooner or later, rarely one escapes and passes through the expectancy of life without having one or all of the contagious diseases. Every year we have either an endemic or an epidemic of these ailments. After an epidemic, when the great majority of the susceptibles have had the disease, it dies out for a time, for want of fuel; but the human reservoirs are alive and carrying the virus until certain atmospheric conditions prevail, then the human "carriers" begin to scatter the contagium. The germs lie dormant in the human being for a season, and when the proper conditions prevail become active and then an epidemic.

Why Epidemics Cease

Let me quote from *The Health Bulletin* of January 25, 1913. "The epidemic of scarlet-fever occurred 1907. It was confined to the north and the west sides of the city; at least the situation on the south side did not develop anything like epidemic proportions. Practically speaking, a large crop of the susceptibles on the north and the west sides contracted the disease. Not nearly all of the susceptibles on the south side were exhausted; a large number were left untouched and therefore unimmunized. When spring set in the disease subsided." The Board of Health did not stamp it out, but spring, laughing, gentle spring, did.

"These holdover susceptibles and the steady increasing crop of the newborn susceptibles have caused more than the usual prevalence of scarlet-fever during the year following the last epidemic. At no time since 1907 has scarlet-fever reached the low mark of other past epidemic years." Why? Waiting for the newborn susceptibles to grow up and come in contact with some living human reservoir? The spark catches; the fever burns; the wind blows; an epidemic; then the old rounds.

Again from *The Bulletin*. "Today we have a tremendous crop of susceptibles, tomorrow we are going to have an epidemic of scarlet-fever [we have it], unless the public [and the public is an irresponsible entity and never can be relied upon] immediately awaken to the present threatening situation and unite with the Department of Health in efforts to suppress it." And by so doing have a large epidemic next year?

Again: "The spread of scarlet-fever can not be prevented by the health-authorities when the people and the doctors conceal cases or when the laws for the control of infection-bearers are disregarded." Now, who are the infection-bearers? The ones who

go in among the sick with the disease, then go out and mingle with the people? If so, then the doctors, inspectors, and nurses are the worst violators of the law.

The diseases, i. e., the contagia, are not carried in fomites; neither rubeola, variola, varicella, scarlatina, or any diseases of that nature. The human living reservoir is the carrier. Fomites will not carry the contagium of the diseases mentioned, any more than they would carry the virus of yellow-fever or of malarial fever. Many physicians believe it, but are afraid to act upon their own judgment.

The Human Reservoir

If you can destroy the human reservoirs, you may be able to control or restrain these diseases. Human reservoirs running around on two legs are attending our public and private schools every day and mingling with the susceptibles, and they vaccinate the unimmune just as surely as the mosquito does its innocent victims; only in a milder way.

From *The Bulletin*: "A scarlet-fever patient must be isolated for a period of five to eight weeks, depending on cessation of infecting discharge." That rule works a hardship upon all the family, as all are quarantined in the house or apartment, and it is the cause of more concealed cases than can be imagined. Hundreds of contagious diseases in this city are never reported. No physician is called in to see the cases. And why? Because the wage-earner, the bread-winner is quarantined, and no one left to supply the larder; and the city makes no provision to supply their wants and the necessities of life. That is worse than paganism. Bright, intelligent law-makers!

At least ninety-five *per centum* of these patients recover, and more than fifty *per centum* need no medical interference. The physicians in the labor-districts are afraid to report cases, because, if they do, that is the last call they will get from that family, or any family, in that neighborhood. When the cases are not reported, the men and women go about their daily labor, mingling among the throngs in the streets and in their places of business, and no one is injured.

By this procedure the fact is being established that a physician is not needed in seventy-five *per centum* of such cases.

If this quarantine rule is to be strictly enforced, how are the workers going to earn bread for their families and procure the necessities for the sick? Are all of the family

to be housed up and not allowed to go out for fresh air, but rather must stay in the deoxidized atmosphere of the sick-room? God forbid! That treatment would be unjust, criminal. Why not isolate the sick one, if it can be done? And it can in the great majority of cases, and it is done in many of the cases. Then give the rest of the inmates their freedom!

If, by these few paragraphs, I have made the members of the profession think of the absurdity of our present beliefs in regard as to how contagious diseases are spread, I shall be well paid for my labor. When the vast majority of the profession and of the laymen come to see this thing as I do, then there will be much hope of keeping these diseases within bounds, and perhaps we shall be able to control them as already we have yellow-fever and malaria.

I believe we have a vaccine which will give immunity for a limited period to those who have been in contact with scarlatina and rubeola as well as an aborter to these diseases in the streptococcus and staphylococcus bacterins. Try it, and be convinced.

Having been in active practice for fifty years, I am no novice, nor do I take to new fads quickly. I investigate all things with an open mind, hold fast to that which is rational, and believe that "that which cometh out of the mouth this defileth man."

[Doctor Stubbs has given our readers something very serious to think about, and he undoubtedly voices a growing opinion among sanitarians, more and more of whom are coming to look upon the *carrier* as the principal means of transmission for the contagious diseases. That this individual is the sole means of transmission, however, and that there is no danger in fomites, *we do not know*. In the present state of our knowledge quarantines seem to be a necessity and the health officer would be derelict in his duties who, *today*, would throw all our code of sanitary laws by the board. When we understand the matter better we shall, the writer feels sure, be able to blot out the epidemics of scarlet-fever, measles and diphtheria, without waiting for nature to exhaust all her available material—the nonimmunes. The future seems to us rich in promise, and we confidently look forward to the development of methods of prevention—perhaps allied to typhoid prophylactic vaccination—which will blot out these epidemics entirely. The scarlet-fever prophylactic bacterin is certainly promising well. —Ed.]

Emetine in Dysentery

By FREDERICK M. HARTSOCK, M. D., Galveston, Texas

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EDITORIAL NOTE: While this paper has already appeared in "The Military Surgeon," Major Hartsock has very kindly given us permission to publish it in CLINICAL MEDICINE. The topic is one in which many of us are much interested

CONSPICUOUS in medical annals of the 17th century was the introduction into Europe of two most valuable empirical remedies from South America: the cinchona bark and the ipecacuanha root.

It seems strange that these remedies should have sustained their reputation on purely empirical grounds over this period and their value and action be proven only in these late years on scientific grounds.

Ipecacuanha was early known to the Brazil Indians as an effective agent against dysentery, the roots being carefully gathered and preserved against this malady. The earliest reference to ipecac was made in an old treatise on Brazil by Pinchas, in 1625. It was introduced into Europe in 1672, and its value demonstrated by Helvetius, who is reputed to have secured a considerable sum by revealing the identity of the drug.

Ipecac was early used in India in the treatment of dysentery, but, strange to say, only in the past few years have practitioners elsewhere considered its value. In South America and the West Indies, it has been a household remedy for intestinal disorders attended by bloody stools, but in the standard works on treatment of fifteen years back bare mention is made of its utility in this regard.

As early as 1858 Docker employed it with great success at Mauritius in the treatment of dysentery.

Its usefulness gained impetus through the success obtained both in the British army in India and in the American army in the Philippines. A few years ago, various experiments were made to ascertain the antiparasitic properties residing in the drug; the most noteworthy of these being by Vedder, who found that one of the alkaloids, emetine, in high dilution had decided parasitotropic properties when brought in contact with cultural amebæ. He further demonstrated that emetine, and not cephaeline, was the active agent.

Following close on these experiments, Rogers demonstrated its practical use in amebiasis.

Emetine is an alkaloid of the cephaelis ipecacuanha, a plant grown principally in the

Matto Grosse district of western Brazil. It is one of the three contained alkaloids, and it is best administered in the form of the hydrochloride. This one of its salts is the least toxic and least irritating, and is best suited for hypodermic use, because of its ready solubility.

The alkaloid was discovered by Pelletier in 1867, and forms an amorphous white powder, with a melting point of 60° C. It constitutes about 1.5 percent of the crude drug. As a base, it combines readily with the hydrochloric-acid radical, forming the most soluble of its salts, and one having a neutral reaction. The large drug houses are supplying it in ampules of 0.02 Gram (gr. 1-3), each suitable either for hypodermic or intravenous administration.

Emetine is a nauseant emetic and cardiac depressant; in large doses, it causes some renal irritation. Locally injected in the form of the basic alkaloid, it causes tenderness, which lasts for ten days or more; but, in the form of the hydrochloride, it is less irritating, though some patients feel the effects of a hypodermic injection for days.

The Action and Dosage of Emetine

Doses of 0.02 Gram of the salt daily have little general effect, or none, except therapeutically. Allen has given 0.21 Gram, without eliciting untoward results, except prolonged nausea.

Doctor Rogers recommends the hydrochloride of emetine, dissolved in 30 minims of water, in doses of 1-2 to 2-3 grain for adults, while 1-3 of a grain may be given to children of 8 years of age. He claims to have given as much as 1 grain to adults, two or three times a day, without observing depression or alarming symptoms; and 1-2 grain, subcutaneously, twice a day usually gives uniformly good results, never producing sickness and very rarely nausea. He further states:

"In connection with the absence of sickness after hypodermic injections of emetine salts, it is very important to note that the drug has extremely little depressing effect, so can be given in few doses in severe cases of dysentery, or even after copious hemor-

rhages from the bowels, without fear of addition to the shock; for I have never seen any bad effects following its use in such cases."

Emetine acts both centrally and locally. In large doses, there are observed two periods of gastric disturbance, one following the other at a 30-minute interval. The first owing to the absorption of the drug, the second, to its excretion by the stomach and intestines and subsequent reabsorption. This excretion by the intestinal mucosa explains its direct amebiotropic effect.

In a minor degree, emetine is a cholagog, although less so than the whole drug ipecac; it also is slightly laxative at first, but later has an astringent effect upon the intestinal mucosa. This latter fact explains its prompt symptomatic action in dysentery.

As to its action upon amebæ, *in vitro*, as already stated, high dilutions kill culture amebæ in a short time. It acts locally and through the blood.

"Emetine in 1:20,000, 1:100,000, and 1:200,000 dilutions killed the amebas, in one of the five series of experiments conducted by Wherry, after twenty-three and one-half hours' exposure, at 36° to 38° C. None of these dilutions was amebicidal in an hour. Wherry thinks it seems fair to presume that, when amebicidal action was manifested, the emetine acted on the trophozoites alone, and that failure to kill may be attributed to the presence of cysts. While emetine in 1:20,000 dilution was found to kill the symbiotic bacterium in forty-eight hours, it did not exert such an action in twenty-four hours in the amebæ-bacteria mixtures. Exposure to body temperature for twenty-four hours did not kill this saprophytic amebæ."

Baermann and Heinemann report:

"By subcutaneous and especially intravenous application of emetine, most of the amebæ contained in the intestinal wall and in the base of the ulcer were killed. For the destruction of the amebæ usually reappearing sporadically after 10 to 70 days, an intermittent treatment is necessary. Encysted amebæ are not directly killed by emetine. One or two intravenous or subcutaneous injections of 150 to 200 milligrams are employed, and, following this in the course of eight or ten days, in 2- or 3-day intervals, four or five subcutaneous injections of 100 to 200 milligrams."

Amebæ sometimes are found in the stools after the ulcers have healed, and in places isolated from the blood stream. In these cases, the alkaloid might be administered

advantageously by the mouth. In a few cases, amebæ are emetine-fast.

Rogers, following the experiments by Vedder, found emetine hydrochloride, in dilutions of 1:10,000, to be destructive to amebæ in dysenteric stools, and in as high dilutions as 1:100,000 to render the cells inactive. He then employed the drug in acute amebic dysentery, in three cases, with marked success (June, 1912). Later (Aug. 12), he reported 12 cases healed, with 2 deaths. In October, same year, he paralleled the use of emetine with ipecac. Of 30 cases treated with ipecac, there were 13 cures and 11 deaths, in hospital. With emetine in 24 cases, there were only 2 deaths. The average amount of the drug used was 2 grains per case.

Rogers also found the drug to be effective in the presuppurative stage of amebic hepatitis, and to have a marked eliminative effect in actual abscess, used locally and hypodermically. As a local measure, 1 grain in solution is injected into the abscess cavity.

Baermann reported 22 cases, in which emetine was solely used, with 6 fatalities.

Lyons cites 6 cases, of which 5 recovered under emetine therapy. These cases were reported well after an average period of three months.

The remedy has been employed by U. S. Army surgeons—for example, Vedder, White-more, and myself—with marked results, as compared with the old treatment with ipecac.

My own experience with 3 cases was very satisfactory. The effect was prompt; but one case necessitated a repetition after a month. One case developed an amebic hepatitis, which promptly subsided.

There is no question but that this alkaloid has a marked effect, both experimentally and therapeutically, on amebæ, and a rapid reduction in the mortality for this malady is to be expected from its more extensive employment.

The question of relapse is one not definitely settled as yet, but further reports will clear this matter.

The treatment with emetine hydrochloride, then, may be summed up as follows:

1. Prompt administration of the drug before severe ulcerative changes have taken place.

2. Intravenous injections at the onset of the disease, followed by hypodermatic doses of 0.02 Gram daily.

3. Control of cases by microscopic examination.

Making Good in Medical Emergencies

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE. Our readers are showing much interest in these articles, which deal with problems that vitally concern every doctor—especially every young physician. Have you any suggestions to make, any questions to ask? You can help add to the interest of the series by your cooperation.

III. ASPHYXIA AND URGENT DYSPNEA

NATURALLY, death follows quickly the complete suspension of respiration. When the latter threatens, therefore, the physician has no time to lose but must think quickly and act promptly. Unfortunately, he often arrives on the scene too late, but since individuals supposed to be dead as a result of prolonged submersion in water or from inhaling poisonous gases have occasionally been resuscitated after hours of effort, it is essential that every known restorative measure be employed and persisted in until there is very definite evidence of their inability.

Also, laborers working in trenches are sometimes buried by cave-ins; workers in elevators and mills have been smothered in bins of grain or flour; and firemen, well-cleaners, and workmen in factories and kilns, or those engaged in underground work, are not infrequently asphyxiated by breathing such poisonous gases as illuminating gas, wood-alcohol fumes, hydrogen, carbonic oxide, sulphureted hydrogen, chlorine, and the like. The water gas supplied as an illuminant in many cities is particularly deadly.

Classification of Causes of Asphyxia

Asphyxiation may be due to a variety of causes, among them: (1) to inspiration of gases, steam or chemical fumes; (2) to pressure upon the thorax or occlusion of the air passages from the outside, as in hanging, cave-ins of sand, grain, and the like; (3) to occlusion of the air passage in swallowing a foreign body, such as portions of food or false teeth; (4) to closure of the upper air passage by edematous effusions or hypertrophied tissue; for instance, edema glottidis, membranous croup, suppurative angina, and laryngeal growths. Aneurism of the transverse arch of the aorta and paralysis or spasm of the laryngeal muscles may cause profound dyspnea or even asphyxia. Young children or feeble-minded individuals may present urgent dyspnea as a result of swallowing boiling water from a kettle or faucet. Finally, asphyxiation may be due (5) to submersion in any fluid.

It is quite obvious that the first essential in meeting emergencies like these is to ascer-

tain and remove if possible the cause of the asphyxia or dyspnea, and then take measures to insure the continued entrance of fresh air into the lungs. Occasionally the physician arrives before the individual has been removed from his dangerous position, and what he does during the next few minutes may mean life or death to the imperilled person. Here is a case in point.

A Thrilling Personal Experience

One day, some years ago, when I was walking through a street topping a sandy ridge in the Borough of the Bronx, in New York City, I observed a group of men standing beside a trench and gesticulating excitedly. Drawing nearer, I heard a rich Irish voice exhorting someone to "Roan like hell for a docthor, and get the pathrol wagin."

The voice emanated from a big son of Erin who (as is usual) was bossing a dozen "Eyetalian" excavators. About three minutes earlier one improperly shored side of the trench had caved in upon three unfortunate "dagoes," and they were buried entirely. Everybody was shouting, the Italians wept, waved their hands and called upon their patron saints, while the Irish boss, damning everyone—and the buried men in particular—in his excitement was tramping *down* the sand in the trench while trying to shovel all the dirt out at once.

I got the boss out, asked just where his men stood, and in a few seconds had one muscular young fellow digging and scooping downward toward the spot where we believed a man's head might be. Soon we uncovered a hat; ten seconds later the upper head and nose were in view; and in another second the mouth was bared. It was not a pretty face, for the pressure on the chest was terrific and he had been completely buried for four minutes at least.

As best I could, I cleansed the man's nares and mouth, and while the other men scooped the dirt rapidly away from his chest I shot a hurriedly prepared solution of strychnine and digitalin into the skin of the neck, and, the moment the man's arms were freed, elevated and depressed them as best I could while crouched on a board laid across the trench. Three minutes later the man was

extracted and I began artificial respiration. By the time he was conscious the patrol wagon arrived and hurried him off to the hospital.

Five minutes later the second man was uncovered, quite dead; the third victim was also beyond help.

The fact that the man I was able to save was known to have been standing erect as the cave-in occurred, and that his position was near the margin of the fallen earth did not seem to mean anything either to foremen or fellow excavators, whereas they should instantly have realized the possibility of barring his head quickly enough to save his life.

Experiences of this kind serve to teach the physician to do his own thinking, and to expect very little intelligent assistance from those immediately involved.

Important Facts to Be Kept in Mind

In a case of this kind, or where someone has been drawn from the water, it is usually not difficult to proceed effectively; but when one finds an asphyxiated individual surrounded by a number of excited, half-hysterical people, each with a different story of what happened—or did *not* happen—it is not always so easy to do exactly the right thing. In this place I shall not attempt to outline at length the treatment of apparent death from drowning. The Sylvester and other methods of procedure are described in every textbook, and in these days of "first aid" manuals and classes it is hardly likely that any practitioner is unfamiliar with the basal technic.

It may be well, however, to call attention to the fact that in most cases *four definite factors* must be borne in mind: (1) *The asphyxia*, due not alone to submersion, but also to blocking of the mouth, throat and bronchi with water or even mud; (2) *shock*; (3) *exhaustion* from struggling and fear (the latter may perhaps be excluded in some cases of attempted suicide); and (4) *exposure to cold*.

It is most important, therefore, to clear the air passages first of all, and then, by the usual rolling and positioning, to remove as much water as possible from the body and restore respiration. The moment breathing has been established, attend to the circulation. Earlier attempts in this direction may overtax an already dilated heart and prove fatal.

Administer strychnine and digitalin hypodermatically or, if these are not available, give 30 to 60 minims of whisky. Inhalations of ammonia, or even irritation of the nares with snuff or powdered tobacco, encourage efforts to breathe. The face and chest should

be rubbed or slapped briskly and the limbs rubbed upwards.

The Importance of Heat

Heat is now the main thing; if possible, get the patient into hot blankets with hot water bags at his feet and along the spine. A few ounces of strong black coffee, given by the rectum, serve admirably as a restorative.

Many a life has been lost because the patient has been allowed to remain in his wet clothes in a cold wind during prolonged attempts at restoring respiration. It is quite true that breathing must be reestablished if the man is to live, but severe and prolonged chilling under such circumstances will not only tend to *prevent* respiration, but may cut short the process should it be restored. Therefore, while bending every effort to initiate breathing, strip off the saturated clothing, piece by piece, and get the body warm the best way you can, but as soon as possible.

Often a fire can be built and bricks heated therein, and clothing from bystanders can be commandeered and used to wrap both bricks and patient. However, do not let some excited person put an over-heated object directly against the skin. Severe burns have been inflicted in this way. The moment swallowing is possible give hot coffee and stimulants rather freely. Then get your patient to bed in a warm but well ventilated room, and let him sleep.

Since there is some danger of respiratory failure during the period of reaction, a watch should be maintained, and it is frequently desirable to apply a mustard leaf or other rubefacient both to chest and back.

The appearance of the apparently drowned person varies. Usually, however, the face is swollen and purple, the lips livid, the eyes suffused, and a frothy fluid oozes from the mouth and nostrils. The body is cold and usually the extremities are swollen.

Even when every sign discourages, efforts to restore life should be persisted in until pulse and respiration have been absent thirty minutes. Delay in starting artificial respiration costs many lives; failure to secure and maintain warmth many more; and lack of persistence, not a few. Do not permit anyone to hold up the body, head down, and caution assistants against too much energy. It is well to draw forward the tongue and keep it in that position with a rubber band or other contrivance, especially if the patient is placed on his back.

(To be continued.)

William Colby Cooper

A Sketch of His Life and Work

By WALTER HURT, Chicago, Illinois

IN THE person of Dr. William Colby Cooper, of Cleves, Ohio, death has removed from the field of medicine one of its most remarkable figures.

Where he was born, and when, is of no consequence. Recounting formal facts of biography is but a literary habit. Readers do not really care for these things. Such data are for the stone-cutter and not for the scribe. What a man has *done* is more interesting; what he *was* is most important of all.

Doctor Cooper was picturesque always, in all things. Which is to say, he was original. Despising the copyist, in every walk of life he scorned to follow the beaten path of precedent.

He was an originalist in medicine not less than in letters. To him, pathology was a philosophy as well as a science. Moreover, he was one of the far-visioned prophets of his profession, and it is probable many of his now heterodox therapeutical theories will be universally accepted after his name has faded into forgottenness.

By his friends, and especially since his death, Doctor Cooper frequently has been called great. Myself, I would not speak of him differently now than in life. Death changes nothing of man but his tissues. Greatness, while not precisely a relative term, is one susceptible of varied interpretations. This description should, therefore, be used advisedly. The contemporary eulogist, impelled by friendship, can afford, perhaps, to disregard fixed values and be inaccurately fulsome. It should be remembered, however, that the authentic biographer is also in a sense a historian. His personal estimates, in consequence, should be nicely exact. For sake of the perpetual verities it is well to be not more generous than just.

If to be great is to be conspicuous, then Doctor Cooper was not great. Fame, how-

ever, is not necessarily a correlative of greatness. Celebrity not always is the measure of merit. Reputation is largely a matter of repetition. Let it be said that any given man is great, and let it be said often enough and loud enough, and the world will come to believe it. We accept such apocryphal estimates as we accept the appraisals of the tax-assessor. Why not? When so few can perceive greatness inerrantly, there is an excellent utility in the vicarious verdict. Without talent for self-proclamation, Doctor Cooper lacked also a capable press-agent to conserve

his rightful heritage of renown. His friends, however, can console themselves with the reflection that it is better to be an obscure genius than a national nonentity.

There is still another, and a truer, standard of measurement. The teacher is gauged, not by what he knows, but by what he is able to impart to others. Just so greatness consists, not of ability, but of accomplishment. And achievement is not what we acquire for ourselves, but what we bestow upon others. One is great according to what one gives to the world. Reserved ability does not enter

into this reckoning. Potentially great, Doctor Cooper just missed actual greatness.

Cooper was one of those character-mysteries that baffle all attempts at analysis. Possessing, as has been pointed out, the potentialities of actual greatness (and this in varied avocations), his achievements in any direction were moderate, and even meager. His thought was fundamental, and to the discerning mind his versatile writings infallibly indicate that he might have been a great physician, a great teacher, a great litterateur. His performance, however, is in no manner commensurate with his capacity. It was not that he lacked an adequate appreciation of his own abilities; nor was he without proper ambition and aspirations. But he



Dr. William Colby Cooper

was not endowed with that essential of success—the faculty for compelling recognition. And, so, his passage through life scarce made a ripple upon the waters of renown. His fatal failing perhaps was indirection. At any rate, his career is crowded with the pathos of unfulfilled promise, and his legacy is largely a record of “great things left undone.”

In view of the immense possibilities, the pity of this is infinite. It seems not too much to say that, with proper application and direction, Cooper might have revolutionized in many respects the theory and practice of medicine. In the realm of unspecialized thought, he might have established new systems of philosophy. In *belles-lettres*, he could have produced imperishable classics. Some of his verse is of a very high order, and a few of his poems are metrical masterpieces. It was as a thinker, however, that he excelled. His philosophic writings alone should redeem his life from any reproach of insufficient results. In my opinion, his “Mind and Matter” matches the metaphysics of Kant; his “Immortality” equals the great effort of John Fiske; while his “Primitive Fundamental” and “Gospel of Philosophy” are not surpassed even by the mighty Haeckel. And in literary elegance they excel each of those masters. It is not short of tragical that these tremendous works are nearly unknown!

Cooper's book “Preventive Medicine” is widely and profitably read by the profession. A few of his miscellaneous writings have been collected in an indifferently edited volume entitled “Tethered Truants,” but the greater part of them are interred in periodical files throughout the country and beyond hope of resurrection to enrich permanently our literature. Also, he has left an unpublished novel and various manuscripts of considerable value.

Doctor Cooper can best be described as “different.” He seemed not to possess any imitative powers. He was incapable of conventionality and did not know how to be commonplace. Invariably his veriest trivialities of action or speech were triumphs of originality. His every output was a creation.

Everything he did was distinctive. In nothing was this quality more evident than in his literary product. Many medical magazines the sparkling flow of his pen has redeemed from intellectual drouth, and therein were thousands of his professional brethren delighted with his delicious whimsicalities. He had the most extensive vocabulary I ever have encountered; yet, he never used an obsolete word, nor did he ever use a legitimate

word except with absolute accuracy. In this connection, I feel that I can not do better than to quote from an extended estimate which I wrote many years ago:

“If the word ‘unique’ is not, by reason of being overworked, ready for the linguistic undertaker, it can appropriately be applied to the literary output of William Colby Cooper. He is *sui generis* in the realm of letters. His thought tinctures with originality everything it touches. He says even the commonest things in the most uncommon way. He juggles language with amazing dexterity, but always consistently with the soundest sense. He is an intellectual acrobat and a verbal gymnast, who charms his audience with his agile art. He can better turn unusual words into striking phrases, and twist these into more varied shapes, than any writer of whom I have knowledge.

“A tendency toward altisonance characterizes, but scarcely mars, Doctor Cooper's style. His ideas pass across the printed page in polysyllabic procession. This inclination is inherent, therefore he makes discreet and discriminative use of a vocabulary that is coextensive with the lexicon. Words are the disciplined servants of his thought.

“Doctor Cooper is vastly versatile, his work ranging widely from the farthest flights of fancy to philosophy's profoundest depths. Tender verse or sparkling epigram or thoughtful essay or lively story he turns off with equal ease. He is a paragrapher *par excellence*. He is both a humorist and a wit. The quaint quality of his humor has won for him the sobriquet of the “Mark Twain of Medicine.” His wit is keen and glittering like sunlight on a blade of steel.

“When it is known that Doctor Cooper is self-educated, the extent of his erudition is cause for surprise. He has delved deep into the mines of classic lore, is familiar with the ancient and modern philosophies, and has studied to purpose the literature of every land.

“Doctor Cooper has had an extended editorial experience. Besides being engaged in newspaper work, in Indianapolis he conducted *The Medical Review*. For fifteen years he directed the editorial destinies of *The Medical Gleaner* of Cincinnati, placing upon it the impress of his individuality and making it distinctive in medical journalism.”

Not the least important part of Cooper was his personal philosophy, and not the least remarkable fact is that he practiced it. He lived his religion. His ethics were expressed in his daily acts. He preached the

gospel of gentleness, and kindness was his only creed.

In a letter received from his widow occurs this statement: "He was not afraid of death."

Of course. There is something unspeakably incongruous in the idea of this gentle spirit faring forth into the Vague Valley with any feeling of fear. Moreover, he was a philosopher, and the philosopher can know no fear. Epictetus never voiced a greater verity than when he said, "No harm can befall a good man, whether he be alive or dead."

Out upon the old barbaric belief that there is anything repellant in death—that it is a thing of fearsome aspect or cruel consequences! The process of physical dissolution is as beneficent as any other normal phenomenon of nature. Personifying, we may say that Death is our dear mother who at the end

of the journey takes her tired children into her comforting arms.

The widow's letter contains another significant sentence:

"He died in the religion by which he had lived—the Golden Rule."

Than this no nobler epitaph could be carved to the memory of any mortal. Let it stand forever in the minds of men while the most steadfast monument of graven stone crumbles to dust that is scattered by the winds of oblivion.

Farewell to our friend. Blessings blossomed where he passed, and he reposes today beneath the plenitude of roses which he planted for others along life's lane. He has dropped to rest at the end of the road—may his sleep be sweet and enduring.

Chicago, Ill.

A Farewell to Dr. William Colby Cooper

BY WALTER HURT.

*Written in 1895, on the occasion of a parting which at the
time promised to be permanent.*

'Tis a random rhyme I send
To you, Cooper, my old friend,
For the sake of elder days,
When you listened to the lays
Springing from a harp o'erstrung
With the yearning of the young
And half-breaking heart of mine—
For the sake of "auld lang syne."

Though a ragged rhyme, old friend,
Keep it kindly to the end.
'Twill, perchance, recall at times
Fairer thoughts and rarer rhymes—
Days our eyes exchanged, old friend,
Fancies each could comprehend—
Though no more I clasp your hand
With the touch you understand.

Take this tribute I extend—
I have known you well, old friend:
Heart of hope and tongue of truth,
Soul as sweet as sinless youth,
Thoughts of gold and jeweled words,
Songs free as unfettered birds—
These, and more, old friend, are thine
And a tear for "auld lang syne."

Making Good in Surgery

Suggestions for the Surgical Treatment of Chronic Conditions

By RALPH ST. J. PERRY, Farmington, Minnesota

EDITORIAL NOTE.—The kind of surgery discussed in this article is that which any good physician should know how to do himself. Doctor Perry is not planning to make surgical "specialists" out of the readers of this journal; but he is anxious to help them to increase the scope of their work—and their incomes.

WHILE many of our rural inhabitants⁷⁷ seem obsessed by the idea that good surgery flourishes only in the larger cities, the surgical fraternity is rapidly reaching the conclusion that the best conditions for surgical success are to be found in the country. Some time ago, after having spent several years in city practice, nine-tenths surgical, an extraprofessional business emergency caused me to change my base of operations to a small western town, and ere six months had passed I had become so enamoured of the simple country life that I refused to return to the burg of teeming thousands. After a quarter of a century as a "country doctor" I am still on the job.

Soon after my rural debut there arose the necessity of sending two patients to the nearby big city for operative treatment. Both came home in pine- and rosewood; both operations had been successful, newspaperly, and neither death-certificate made mention of any operation having been performed. A little quiet investigation developed that, of some twenty patients who had gone from that territory to the cities for operations during the previous two years, only two had returned to tell the tale—a mortality rate of ninety percent!

Many of these deaths were due to procrastination on the part of patients, relatives, and others involved, while some were owing to the excitement and exhaustion of the journey to the city. I made up my mind that I could produce at home as good results as did the surgeons in the city, certainly no worse, and very probably much better, as I would get hold of the patient sooner. A trip to one of the "surgical centers" showed one real hospital and two reformed residences. Many of the operators had had less surgical experience and poorer training than I myself and depended upon "nerve" and the prestige of the city to bring them business.

The Country the Best Place for Surgical Institutions

In the twinkling of an eye a plan was formed, and my home in the village was transformed into a private hospital and

Dr. Perry's Sanitarium came into being. Twenty-five years ago the specialties were not so numerous nor so highly developed as today, and my work was announced as surgery, diseases of women, and chronic diseases, a trinity which is generously comprehensive and permits the treatment of almost anything, from alopecia to ingrown toe nails. Arrangements were made with a "practical" nurse to look after patients under my personal supervision. The schedule of fees was the same as that in the cities.

At first things came slowly; but as it became known that we furnished A No. 1 accommodations, with good "home-cooked" food, and that the results of our treatments were good business began to come our way. In two years we were getting patients from the nearby cities, and during the last year we had patients from New England and New Mexico, from British Columbia and the West Indies. What we have done any other person of reasonable skill and persistency can do.

The proper treatment of chronic conditions demands a quiet, restful place, removed from home and business cares and irritations, a cheerful place where the gloom-bugs are told to get hence, and where there is an abundance of good, fresh food, pure air, pure water, and soothing silence—a health-making, strength-building combination to be found only in the country. And while taking every advantage of nature's adjuvants, do not overlook the necessity of constant study and observation, of postgraduate work and of rubbing against your fellows at society meetings. Don't get into a rut—the chief difference between a rut and a grave is one of dimensions, and not of contents.

The citizen of the country as a rule is a good business proposition; he has stability of habits, of income and residence, and usually is able to pay a fair fee for services rendered. Furthermore, the patient who comes to consult you in your village office usually has his or her mind made up to take treatment of you, if given any encouragement, and does not go "shopping" among a dozen or more competitors. Being a "farmer" yourself, you can

talk farm talk to him intelligently, can sympathize with his troubles and share in his joys; all of which line of conversation tends to get business and helps to while away the tedium of a patient's convalescence.

Just a word about encouragement. Do not promise too much and do not guarantee cures. It never pays to give rise to false hopes, for the victim of your deception never forgets it, though the benefit done will readily fade from the memory. There are too many elements and factors involved in convalescence that are beyond your control, or any human control, for you to undertake to guarantee the results of their combined action.

How to Overcome Obstacles

In many villages, your work will be handicapped by the lack of modern facilities, such as electric lights, water-works, sewers, and so on; but these can be overcome. Incandescent mantles furnish light and batteries will furnish electricity till the time when you can get capital ahead to install a private electric plant; the air-pressure water-system, with a septic-tank attachment, will make you independent of other plants. Your local, farmers, and long-distance telephone lines put you in touch with your tributary territory, and you are as well fixed as your city competitor, and at less expense.

Your office should either be on the ground floor or affiliated with a passenger-elevator, for patients suffering from chronic diseases, especially women and the aged, find it difficult and frequently impossible to climb stairs. Also, the office should be near a hotel, the depot and the public hitching-place. Farmer-folk will invariably drive past your office, hitch up on the public square, and then growl at having to walk back to your office. As to the plan and equipment of your office, I shall defer remarks to later articles. (Don't let your subscription expire!)

The greatest obstacle to success in the treatment of chronic conditions is that malignant verb "I can't"—an expression which may be the audible stigma of either jelly-spine or psychic inertia. The next time you see Miss Chicago just reach out and toy with her bosom long enough to become infected with her motto, "I WILL!"—and then "hop to it." The necessities of local conditions will make you an omnivorous specialist, and if you are any kind of a good workman you will soon find the hopping good. As you progress in your work, you will discover some one line in which your talent seems to lie, in which you get better results than ordinary, and that is

the specialty for you to cultivate and to feature, although not relegating the other work to the discard.

I have no sympathy with the doctrine promulgated by some, that it is impossible for a man to be a general surgeon, capable of performing any operation required of him. The fundamental principles of surgery are the same in all specialties, and any person possessed of the necessary anatomical knowledge, correct technic, manual dexterity, and a knowledge of the details of an operation should be able to perform that operation, regardless of the regional or functional limitations of the organs or tissues involved.

Undoubtedly there are operative procedures of an exceedingly delicate nature that demand highly specialized skill, but these seldom come in the general course of one's business. When such cases are encountered, however, it is always best to call in as consultant some other surgeon who has acquired the desired expertness and have him examine and operate in consultation with you. Don't turn the patient over to him, though, but have it understood that he is operating under your directions, upon *your* patient.

Chronic Diseases Beware the Knife

In handling chronic conditions, you will early learn that many of your patients have also been the patients of others, and it behooves you to be informed regarding the methods of treatment followed by your competitors, that you may have some idea of what treatments have been previously tried out and failed—for, had they not failed, the patient would not have come to you. Study, investigate, and use every method calculated to restore rundown vitality, to arouse dormant organs into function and to revive normal cell activity.

Do not be ashamed to use old-fashioned remedies or methods, for many chronic cases were cured before serums were dreamed of or phototherapy was perfected. A good book to study is Hahnemann's "Chronic Diseases" a work a century old; you may not believe in his therapeutics, but his adjuvant methods are worth studying. And, even though it be treason plus *lèse majesté*, I frankly assert that thousands of "old chronics" have been cured by the treatments therein detailed.

Do not overlook those methods of treatment which discard the knife, for some people have wearied of being trimmed and pared and sliced and excised. The present day exuberance of the laces shows the mental trend of the laity. Nearly every lake has a germ

of truth in it; it may be an old idea worked over or a neglected method rejuvenated and renamed, but, whatever it is, it proves the contention of the fakers that a part of the public thinks it has had too much surgery.

Too often the success of the illiterate "irregulars" is built upon opportunities neg-

lected and ignored by the educated M. D.'s. Let me suggest that you do not overlook or neglect electricity, massage, water, gymnastics, heat, light, suggestion, the U. S. P. and N. F., nor the active principles, while surging among the chronic conditions. More of detail in my next.

Refraction for the General Practitioner

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois

Clinical Professor of Pediatrics, Chicago College of Medicine and Surgery; Author of "Essentials of Refraction"

EDITORIAL NOTE.—Why not attend to the refractive troubles of the people of your community? You can do so, and add largely to your income. The expense for equipment is small, and it is not difficult to learn to take care of ninety percent of the troubles. Read what Doctor Atkinson has to say on the subject.

Equipment

THE necessary equipment for refraction-work is very simple. It consists of a trial-case, retinoscope, and ophthalmoscope, to which must be added a distance test-chart and a retinoscopy-lamp. Trial-cases vary in size, contents, and price. A small case may be obtained for \$25 or \$30, but it really is not enough for effective and satisfactory work. A \$50 case is better, and a \$75 one still better.

The case last named is sufficient for all the needs of the ordinary refractionist. It contains convex and concave lenses, bound in metal (convexes are always bound with white and concaves with gilt metal), from 0.25 up to about 20 diopters, running in gradations of 0.125 in the lower dioptrisms and of 1 D. (diopter) in the higher; convex and concave cylindrical lenses (similarly bound) running up to 12 or 15 D. in convenient gradations; prisms up to 30 and 40 degrees; blanks, pin-holes, Maddox rods, stenopaic slits, colored glasses, chromatic lenses, trial-frames, etc. A distance type chart is always given with the trial-case upon request.

A good retinoscope can be had for about \$1. There are two kinds of retinoscope, the plane and the concave. As between these two, the practitioner must choose for himself, after learning the method of usage in both instances. Most operators prefer the concave. The writer, on the other hand, prefers to work with the plane one. A detailed description of the instrument and its uses will be given in the course of instruction on retinoscopy.

An ophthalmoscope is somewhat more expensive than a retinoscope, being a more complex instrument. There are two makes of ophthalmoscope in general use, the May and the Loring. Choice between them is a purely personal matter. The May is a little the

more expensive, costing \$12, while the Loring can be had for \$8.

There is still another one, known as the Zeng ophthalmoscope, which carries its own source of illumination in the shape of an electric bulb, furnished with power from a small battery to be carried in the pocket. This latter instrument is exceedingly convenient for physicians' use in places where proper illumination is hard to get (as when the patient is lying in bed or lives out of the reach of electric or gas light), but has no advantage over the other kinds for office work, while being considerably more expensive.

The best possible light for use with the retinoscope and ophthalmoscope is an electric bulb of at least 32 C. P. and cylindrical chimney; but a gas or even an oil flame will do very well. Whatever light is used, however, it should have a cylindrical opaque cover, with a circular bullseye aperture, and over this aperture a diaphragm with a circular hole 10 mm. in diameter for the light to emerge. The light should be on a bracket which permits of its being placed at any height and in any lateral position that may be desired, within the ordinary limits of such head work. The doctor who is doing his own nose and throat work already has an arrangement of this kind.

Examinations of the eye with these instruments should be made in a dark-room, so that the illumination of the patient's pupil may stand out in contrast from the surrounding darkness, and the observation be thus rendered easier and more accurate.

General Principles

The undulatory, lateral waves constituting light are not regarded in optics, but rather the straight lines in which these waves travel are taken as units; and these constitute rays.

Rays of light, upon leaving an object, diverge in all directions, and within a certain distance they strike an observing eye in a divergent fashion. This distance is roughly calculated at 6 meters, hence, rays which come from an object less than 6 meters away from the eye are called divergent or finite rays.

At six meters from their origin the divergence of the rays entering the eye is so slight that to all intents and purposes they may be regarded as parallel. Hence, rays coming from a point 6 meters or more from the eye are called parallel or infinite rays.

Refraction is the deviation, or bending, from its course which a ray of light undergoes when it passes from one medium into another of different density, and the surface of which is not at right angles to the entering ray.

When a ray of light passes from one medium into another of different density, if the surface of the receiving medium be perpendicular to the entering ray, it continues to travel in the same straight line as before; but, if the surface be not perpendicular to the ray, then the ray, upon entering it, is bent from its course.

In passing from a rarer to a denser medium, the ray is bent toward the perpendicular of the refracting surface; in passing from a denser to a rarer medium, the bending is away from the perpendicular.

The greater the discrepancy of density between the two media, the greater the degree of deviation, or, in other words, the larger the index of refraction.

When the surface of a refracting medium is spherical, only one of any group of rays which enter it will be perpendicular to the surface and will pass through unchanged; the others are bent, or refracted.

But, since the curvature of the surface bears a uniform relativity to the radius of the sphere, these rays will be bent with a similarly uniform relativity, and will, therefore, all be brought to a point on the radius, or axis, of the sphere.

The path taken by the unchanged ray, entering at right angles to the surface, is called the principal axis; the ray itself is called the principal ray, or ray of direction.

The point on the axis where parallel, or infinite, rays refracted by a spherical surface are brought to a point is called the principal focal point.

The distance of this point from the refracting surface is called the principal focal distance.

There is a certain point of nearness to the

refracting surface from which rays, emerging, are so divergent that the refracting medium can no longer render them convergent, but only parallel. This point is called the principal anterior focus.

The eye is a spherical refracting organ, of such a curvature in relation to its length that, when the eye is at rest (i. e., when no accommodation is in force), parallel, or infinite, rays are exactly focused upon the retina.

Lenses

There are two kinds of lens, as to curvature convex and concave; and two as to form spherical and cylindrical.

Convex lenses often are called plus lenses, because they add to the refracting power of the eye; and concave lenses, minus, because they subtract from it.

Inasmuch as rays of light, upon entering a denser medium, are bent toward the perpendicular of the refracting surface, it is clear that rays of light which enter a convex lens (other than the principal ray) are bent toward each other, so as to converge at a point; while those which enter a concave lens are bent away from each other, so as to diverge from an imaginary point.

The focal point of a convex lens, therefore, is the point at which the refracted rays actually come to a focus, and is a positive point. The focal point of a concave lens is the imaginary point at which the refracted rays would meet if projected backward on the concave side of the lens, and from which, of course, they appear to diverge, and is a negative point.

The focal length of a lens is the distance between the refracting surface and the focal point. Since the refracting power of the lens is in direct proportion to its curvature, it is plain that focal length is less as the curvature is greater. Mathematically this is expressed in the formula that curvature is equal to 1 divided by radius; or, transposing the formula, radius is equal to 1 divided by curvature. Now, as focal length is always half the radius, focal length is equal to 1 divided by twice the curvature. Hence, the larger the quantity represented by curvature, the less the quotient of its division into 1, which represents the focal length.

The refracting power of a lens is made up of the curvature of its surface and the density of its material, and is called its dioptrism. Since, however, all lenses are made of uniformly dense material, their relative dioptrism is in fact dependent upon their different curvatures.

The dioptrism of a lens is measured by the distance in which it is able to bring parallel rays to a focus; the shorter this distance, the greater the dioptrism of the lens. That is to say, dioptrism varies inversely as the focal length. As stated, both these functions depend upon the degree of curvature; therefore, the greater the convexity or the concavity of the lens, the greater its dioptrism and the less its focal length.

The standard of dioptric measurement is a lens the curvature of which enables it to bring parallel rays to a focus in exactly 1 meter. This lens is said to have a strength of 1 diopter (or 1 D.). Lenses of greater curvature express their dioptrism in multiples of 1, and those of less curvature in divisors of 1. Thus, a lens which is able to focus parallel rays in 1-2 meter is said to have a dioptrism of 2 D., while one which brings them to a focus in 2 meters is designated as 0.50 D.

Spherical lenses, as we have seen, are segments of a sphere and refract all the rays, except the principal ray, toward or away from a point, the resulting path of the rays being cone-shaped.

Cylindrical lenses, which are segments of a cylinder, refract only the rays that strike them at right angles to their axes; those which strike them in the same line as their

axes are perpendicular to their surface, and therefore are not bent at all. Cylindrical lenses, therefore, refract rays in a straight line toward or away from a point, the resulting path of the rays being fan- or wedge-shaped.

Lenses are, nowadays, made of good crown-glass. They are ground in three different forms: (1) One side plane and the other side either convex or concave, known as plano-convex or plano-concave. (2) Both sides are either convex or concave, and are known as bi-convex or bi-concave. (3) One side convex and the other side concave, but with the net refracting effect either convex or concave, as the case may be, known as convex or concave meniscus lenses, according to which curvature predominates.

The latter form of lens (meniscus) is the one almost universally used in the case of spherical glasses and forms the basis of what is known as the periscopic or toric lens, of which more will be said later. Cylindrical lenses, however, are usually ground with one side plane, except when they are combined with spherical lenses, in which case the spherical curvature is ground on one side and the cylindrical on the other. In large periscopic, or toric, lenses the meniscus principle is carried out.

(To be continued.)

Bryonin, and the Treatment of Chronic Rheumatism

By JOHN M. SHALLER, M. D., Cincinnati, Ohio

WE ARE informed in current medical literature that bryonin is useful in the treatment of chronic rheumatism; that is, supposedly in any case, no matter what the dominant symptoms may call for.

According to Gould, rheumatism is a constitutional disease characterized by pain in the joints and muscles, tending to recur, and associated with exposure to cold and wet. The generally accepted idea of "rheumatism" is similar to this; namely, that it is a condition characterized by pain in the joints and muscles and not directly and positively attributable to definitely known causes. However, Gould's definition does not apply to gonorrheal rheumatism, so called. While it is a constitutional disease, with pain in one or more joints, it does not depend in any way upon exposure to wet or cold.

As a matter of fact, the ingestion of an excessive quantity of meat may produce as

severe pain in various muscles as exposure to wet and cold. Rheumatism will eventually be classified as a disease resulting from the absorption of the toxins of faulty metabolism, which, not being rapidly eliminated, are stored in muscles and other structures where they produce pain because they are irritants.

When pain and stiffness in various muscle groups repeatedly appear a few hours after eating meat or other equally indigestible food, cause and effect are very closely associated for that particular individual. I know a man who invariably has severe pain and stiffness in the muscles of his neck with headache, loss of memory, and insomnia a few hours after eating heartily of beefsteak. It is simply ptomain poisoning, and, yet he was invariably treated, though unsuccessfully, for "rheumatism."

Not every sore muscle and tender joint is "rheumatism" or due to excess of "uric acid."

The "uric acid retention" business has been overdone.

It is amusing to meet people who, in the course of general conversation, gleefully remark that Dr. So-and-So told them that they had "uric acid." Then straightway those who are not so fortunate will seek this doctor, and they, too, will have "uric acid." Society simply *must* have it, and, of course, doctors (who must always be accommodating) comply with the requirements and everybody is happy—except perhaps those who really *are* lithemic.

When to Prescribe Bryonin

Thus, gradually I come to the real subject-matter of this paper. Discriminate. Look for specific indications. Prescribe definitely. Never give medicines that are recommended in a general way for the treatment of a "named disease."

Digitalis, veratrum, aconite, and bryonin are all stated to be "good for pneumonia." In fact, they are highly recommended; but each drug has its specific indications and cannot be given indiscriminately to any or to all patients simply because pneumonia is present. This kind of hit-or-miss practice is responsible for the very rapid growth of the no-drug methods.

Bryonin has specific indications in the treatment of so-called rheumatism. It is *not* good for all chronic patients, any more than aconite is good for all cases of acute pneumonia.

Bryonin relieves pains made worse by movement and accompanied by dryness of the mucous membranes of the mouth and nose. All "rheumatic pains" are not made worse by movement. On the contrary, some forms are made better thereby and will entirely disappear after moving about for a while. This applies both to muscle and joint pains. The best remedy for these latter pains is *rhus toxicodendron*.

Chronic rheumatism is not, by any means, the only disease, or perhaps symptom, for which bryonin is used. Rheumatism is really a symptom, i. e., pain in a muscle or joint that is not conspicuously associated with some obvious basal pathological condition. However, relieve a symptom, prevent its return, and the patient is cured.

Special Indications for Bryonin

Bryonin, then, is usually beneficial in those diseases (or even unclassified symptoms) in which pain on motion is marked and the mucous membranes of the mouth and nose are dry. The following list shows that

bryonin may be used in many apparently varied ailments, but, it will be seen that in each instance there is either pain on motion or dryness of the secretions or both of these symptoms.

Bryonin may be successfully used in acute pneumonia with involvement of the pleura. The indications are pain on breathing and coughing, especially when the cough is hard, dry, and hacking.

In chronic nasal catarrh, with dryness of the mucous membrane, and when dry, hard crusts form in the nose.

In headache, occipital or frontal, provided the pain is made worse on motion, that is, by moving the body, the head or even the eyes.

Pain of a sharp character in the hepatic region worse upon inspiration, walking or any movement; tongue dry and heavily coated.

Muscular soreness and stiffness resulting from excessive use of the muscles.

In constipation with dry, hard stools bryonin is useful. There is not only dryness of or scanty secretion in the bowels, but also of the tongue, which is often covered with a thick, yellow coat. The feces are difficult to expel, on account of their dryness. There is no better combination for sufferers of chronic constipation than Waugh's anticonstipation granule; but, excellent as this remedy is, there may come a time when the patient becomes tolerant and it fails to produce results. Two granules of bryonin, 1-64 grain each, added to the usual dose of anticonstipation pills, will then often produce splendid effects.

As bryonin is indicated when there is dryness of the mucous membranes of the mouth, the inference is that there is also dryness or lack of secretion in other parts of the body. In chronic rheumatism, there is usually constipation as well as scanty urine. The skin may also be dry.

In edema and dropsical effusion, there is scanty secretion of urine and constipation, not so much because the secretions of themselves are at fault, but through the lack of blood pressure. Digitalis will often remove the dropsical conditions, while bryonin will increase the secretions in general, especially those of the liver and gastrointestinal canal.

Not a Remedy for All "Rheumatisms"

The idea is, not to give bryonin in a routine way in all cases of chronic rheumatism but where it is indicated and called for. There may be pains in joints and muscles and elsewhere that are not rheumatic, so called. Different causes produce symptoms similar to

those for which bryonin is usually given, but which require other medication. As has been before mentioned, bryonin has specific indications, and when pain is made worse by motion and there is dryness of the mouth, bryonin is indicated and will usually give good results, no matter what the original disease is. This applies to pains in the joints, muscles, tendons, nerves, and serous membranes. The secretions are scanty. There is an accumulation of some poisonous product of faulty digestion, which is an irritant poison, and there is then a swollen, tender, and contracted muscle with all evidences of inflammation. Elimination is needed very badly, to purge, as it were, these infiltrated muscles of their poisonous contents.

Bryonin, however, is not recommended as an active, quickly efficient cathartic. It is likely to prove painful, but it may prove helpful or synergistic in combination with other evacuants.

Calomel, podophyllin, and bilein in combination will certainly stimulate the liver and produce copious secretion both from liver and bowels. It should always be followed by a saline laxative.

It is better to prevent active catharsis, except in dropsical effusion, by means of bryonin, and use it in such doses as will gently increase the secretions of the liver, intestines and kidneys. In severe headaches that are made worse on motion of any kind a cure is often quickly produced by taking one granule of bryonin every fifteen minutes for five or six times. Relief is obtained by stimulating suppressed secretions, which drains from the involved tissues the irritating poison that has been deposited there.

Relief of "Pain in the Back"

A condition that is very annoying in both sexes consists of pain across the back of the pelvis and lower lumbar region not infrequently extending down the thighs. The muscles mostly affected are the gluteal, erector spinæ, and latissimus dorsi. The back aches and feels stiff and sore, the pain is constant and made worse on movement. Two granules each of bryonin and rhus tox., taken every two hours, will generally give relief.

Better than the above, however, is that excellent combination granule of Taylor's containing macrotin, bryonin, colchicine, rhus tox., and strychnine arsenate.

It is sometimes difficult to give a single medicine, or to place confidence in such, especially after using for years combinations of many remedies. One is likely to feel that he

is not doing his patient justice when prescribing but one medicine. A combination seems better. The patient may have more chances of getting better or of getting worse. In many combinations, all of the contained drugs are not indicated, in fact, some of them may be contraindicated. The rule should be, never to give a drug unless there is a positive indication for it.

Study the most prominent symptoms, and find the medicine that is definitely indicated. This will in time make the practice of medicine much more exact, and will restore the confidence of the general public, which without doubt has been greatly shaken, as is evidenced by the large class of people who now demand no-drug methods.

Believe in the power of medicines to cure. Be positive about this. Remember, however, that cure depends upon the proper selection of medicines that are indicated, and which are adapted to the particular condition and to the special peculiarity of the patient as well as that of the disease. The conditions, not the disease as a whole, need special attention. It will be learned that many of those stubborn and apparently hopeless cases can be alleviated and cured that would otherwise show no improvement.

Oftimes there is only one symptom that is objectively manifested. Because it is single, it cannot be raised to the dignity of being classified as a disease. It may be interse pain varying in character, it may be vomiting, diarrhea, vertigo or just that tired feeling. No amount of skill, with even the most careful examination, can add one subjective symptom or reveal the cause, and, yet, there is a cause; there must be.

There is just the one symptom to treat, and generally there is one remedy definitely and specifically to meet it. It is not always necessary positively to diagnose the disease. If it should appear necessary, it is not always possible, and there is nothing to do but to treat the one symptom or the condition that is present, and to treat it as definitely as possible.

As to the Dosage

Two granules of bryonin, 1-64 grain each, given every two or three hours, is the usual dose, whether free bowel action has been produced or not. This should be continued until relief is obtained, or until the bowels are thoroughly moved or griping in the stomach or bowels is produced. The dose should then be reduced to one granule every two or three hours; just enough to keep up gentle stimulation, and not any prominent physiological

effects that border on the poisonous. In chronic cases, this treatment should be kept up for several weeks.

Other indicated medicines may also be given; bad habits should be corrected, strong suggestions should be made in regard to all the effects expected from the drug, as well as

to the cure. Always be positive in regard to the results to be expected. Let patients anticipate them. If the physician cannot do this in regard to any one medicine, he should select some other remedy concerning the effects of which he feels certain enough to tell his patients what to expect.

Bronchial Asthma

A Study of its Pathogenesis and Therapy

By JOSEPH JOHNS, M. D., Ionia, Michigan

IN HIS writings, Samuel West has said: "Asthma must be regarded as a reflex neurosis, the symptoms of which are spasm of the bronchial muscles, of the diaphragm, and of the other inspiratory muscles, associated with more or less vasomotor disturbance in the bronchi."

This brief statement undoubtedly sums up the conditions present in this disorder, as it is now generally accepted by the majority of medical authorities; and when one stops to consider the anatomical and physiological relations of the structures involved in an asthmatic attack, together with the temperament of the patient and the stimuli necessary to produce an attack, it is readily seen how practical this theory is.

First let us consider the distribution and connections of the nerves supplying the respiratory mechanism. Branches from the sphenopalatine ganglion of the sympathetic system supply the lining membrane of the nose, pharynx, and eustachian tubes. This ganglion has motor, sensory, and sympathetic roots, and communicates with the facial and pneumogastric nerves. Secondly, the schneiderian membrane is continuous with the lining membrane of the nasal ducts and eyelids; the pharynx, eustachian tubes, and the tympanic cavity; the larynx, trachea, and bronchi. Thus, we find united in closest connection all these structures; and we may state as an axiom that "any inflammatory process in one part of the upper respiratory tract tends to extend to the contiguous parts."

The physiology of respiration is recognized as an involuntary reflex, and each respiratory act necessitates a finely coordinated adjustment of the contraction of a number of muscles, which adjustment is dependent upon a controlling nerve-center located in the medulla oblongata and known as the respiratory center. Connected with this center, are the

afferent and efferent respiratory nerves. The afferent, or sensory, nerves are the pneumogastric, glossopharyngeal, trigeminal, and the cutaneous nerves. These nerves conduct stimuli to the respiratory center from within the air-passages, from more remote parts of the body, and from the skin. The efferent, or motor, nerves are the phrenics, some of the spinal nerves, and the motor branches of the vagi. These control the action of the diaphragm, and of the bronchial and other respiratory muscles. All these structures are also connected with the sympathetic system, which controls the vasomotor muscles. The pneumogastric nerves possess both bronchodilator and bronchoconstrictor fibers, general sensory and trophic fibers, and secretory fibers to the mucous glands. Thus, we see that these nerves are the principal ones in the controlling of the respiratory mechanism.

The condition necessary for the generation of a nerve impulse is an external stimulus acting upon an irritable neuron. While life exists, stimulation of varying intensity is always going on, and there is no moment at which the effectiveness of this stimulation is not varied. The response to this continuous and ever varying stimulation is not always evident, but occasionally its intensification renders the responses so strong that a marked reaction follows.

Pathogenesis of Asthmatic Attacks

Accepting the theory that the act of respiration is an involuntary reflex resulting from the stimulation of the afferent respiratory nerves, which stimuli arise both from within and from without the body, it is easily seen how in certain persons abnormal stimuli may produce abnormal reflexes. For, how else are the various phenomena which at times occur in these organs to be explained? Take for example the tinnitus produced in some people

by the inhalation of tobacco smoke, or the drinking of ice water. This condition no doubt is a vasomotor disturbance. There is also the bronchial cough produced by instrumentation of the external auditory canal, nasal septum or middle turbinates; also the paroxysms of sneezing produced by irritating the scalp, upper lip or nasal septum.

Reflexes occur normally in all parts of the body, and exhibit themselves with exceptional force in patients of a neurotic character and in certain organic and functional disorders of the nervous system. In the asthmatic individual, the nervous temperament is one of the predominating features and is one which may be either hereditary or acquired. The inheritance of asthma shows itself in about one-half of the victims when three generations are taken into the computation. The disorder sometimes runs in families, particularly those with irritable and unstable nervous systems. In rare cases, it has been known to alternate, in the same patient, with migraine, hiccup or even with epilepsy. In other instances, occurring in neurotic stock, it has taken the place of the graver neuroses and psychoses in members of the same or succeeding generations.

This element is further shown by the periodicity of the attacks in many persons, and by their being brought on by mental emotions, such as worry, anger, fright, anxiety. Bishop states that an asthmatic attack constitutes a "nerve-storm," while its neurotic character is further supported by the fact that frequently patients experience irritability and nervousness just preceding or during an attack; the coordinate action of the muscles may be affected and they may complain of being ill-tempered and feeling jerky.

Another necessary element in this disorder is an irritable respiratory membrane, that is, a condition of hypersensitiveness of the sensory end-organs of these structures. It has been observed that nasal disorders may incite, produce, and prolong the attacks; frequently the attacks do not reappear when this source of irritation has been removed.

Some authorities maintain that all asthmatic patients have some kind of affection of the upper respiratory tract. About 22 percent of the subjects are known to have nasal polyps, while many cases are found where the middle or the inferior turbinates are so enlarged as at times to come in contact with the septum. Such conditions as hypertrophic rhinitis, deviation of the septum, spurs, ethmoidal and sphenoidal disease; sometimes, also, only a hyperesthesia of the nerve

end-organs of the septum or turbinates has been observed

In the throat, especially in children, adenoids, hypertrophied tonsils, and elongation of the uvula have been found as exciting causes. Another feature may be an irritable bronchial mucous membrane in chronic catarrhal processes; but this undoubtedly is an extension of conditions existing in the upper respiratory tract. Given these pathological conditions, abnormal reflexes may arise from the added irritation from damp or cold air, dust, gases, pollens, odors from plants or animals, perfumes or irritating chemicals.

Conditions more remote have also been known to produce the attacks, as, for instance, irritation of the eyes from gas, electric or bright sun-light; also irritation from middle-ear disease. On the other hand, so many middle-ear troubles result from nasal conditions that it is doubtful if the ear condition alone is the cause. Sometimes these attacks have been produced by irritation from the stomach or the genital organs, many women showing Leyden's crystals and spirals, and in these the asthmatic attacks occur only during the menstrual periods. Patients of this latter class have been cured through the correction of uterine misplacements. Some patients show irritability of the pneumogastric nerves, following whooping-cough, measles or infantile bronchial disorders, or through the pressure of enlarged glands, as in tuberculosis, syphilis, tumors, or a persistent thymus.

The sudden onset of peripheral disorders, including eczema, urticaria and psoriasis, is thought to be a causative factor, by acting on the sympathetic system. Other factors that may influence this condition are errors of diet, ill nutrition, obesity, and lymphatism.

Is Autointoxication a Factor?

Some authors advance the theory that the disease is due to an autointoxication or to an excess of uric acid in the blood; the latter, Bishop also claims to be the cause of hay-fever. Haig maintains that the uric acid in the blood contracts the arterioles all over the body and produces a high arteriole tension. He considers that asthma represents the effects of this contaminant upon the thoracic circulation, while epilepsy may be the expression of its influence upon the circulation of the brain. The asthmatic attacks usually occurring during the night, he claims^s that this is because the blood is more toxic at that period than during the daytime.

In this theory it might also be assumed that the excess of uric acid or other toxins in the

blood serves to bring about a hypersensitive-ness of the nerves, so that the respiratory reflex reacts abnormally when excited by various irritants. This idea is also borne out by Ballenger, who states that "hay-fever, laryngeal cough, sneezing, bronchial asthma, and anesthesia and hyperesthesia of the mucous membranes of the ear, nose, and throat are reflex phenomena, which may result from the irritation of the nervous system by the toxic material in the blood."

Various theories have been propounded to explain the dyspnea of an asthmatic attack; but the prevailing one of today is, that primarily it is the result of spasm of the smaller bronchi, as taught by Laennec and others; and, secondarily, of spasm of the muscles of the thorax and of the diaphragm, which become unable to expel the air in the alveoli owing to the restricted lumen of the bronchi.

The reduction in the number of respirations would tend to demonstrate that the resistance to the egress of air is the main cause of the difficulty. The expired air shows an increase of about 10 percent in carbon dioxide, and it contains little or no oxygen in marked cases, the blood having absorbed all that is contained in the increased residual air.

This compensatory effort is not sufficient, however, to satisfy the demands of the system for the oxidation of the tissues. Imperfect action of the chest-walls often is the result of momentary paresis of the muscles, because of the absorption of carbon dioxide. Thus, the impeded respiration produces an excess of carbon dioxide in the blood and also gives rise to abnormal stimulation of the vagi. This action and reaction are further influenced by (1) the reciprocal effects of an accumulation of carbon dioxide in the central nervous system and a retardation of the circulation; and (2) by the rapid production of carbon dioxide in the organism in consequence of the powerful efforts required for the movements of respiration. Thus, in an asthmatic attack we have internal as well as external factors that help aggravate the condition.

Reviewing the foregoing statements, we must consider that asthma is no doubt a reflex neurosis depending upon a number of conditions: namely: (a) the nervous temperament, (b) heredity, (c) an irritable respiratory membrane, (d) pathological conditions of the nose, throat or bronchi, (e) environment or abnormal stimuli, and (f) possibly an auto-intoxication.

All these factors depend one upon the other, to a great extent, for no one factor is capable of producing the disease by itself, a combination

of two or more being necessary. In many cases asthma is known to have been cured; hence, every victim should be subjected to a thorough examination of the entire respiratory tract, in order to locate, if possible, the exciting causes. If pathological conditions are discovered, they should be corrected, if possible, and any contributory causes removed, for then you often may eliminate the stronger factor producing the disease by breaking the abnormal reflex-chain.

The Treatment of Asthma

The treatment of asthma is both of a local and a constitutional nature. The local treatment mostly is confined to the upper respiratory passages. Reflex irritation from the nose is a very common cause of hay-fever, which mostly is connected with spasmodic asthma, and this often may be prevented by smearing the inside of the nares with a viscid ointment, such as that of zinc oxide, or by rendering the nasal mucous membrane less sensitive by the application of cocaine. The inhalation of medicated smoke is useful, the commonest and cheapest being the fume that arises from burning blotting-paper that has been dipped in potassium-nitrate solution and dried. Occasionally the addition of a little potassium chlorate to the nitrate solution seems to render the fumes more effective.

Among the various internal remedies extensively used for the treatment of asthma, is potassium iodide in large dosage, and sometimes this acts like a specific. I am very much pleased with the effects of tincture of lobelia in doses of 10 to 20 minims, combined with belladonna. The asthmatic attack usually demanding immediate and prompt treatment, I give a few whiffs of chloroform, which produces a prompt relaxation; then follow up with small doses of morphine.

Asthmatic patients should stay indoors, and guard against outdoor air in stormy days, which brings about the attack in most cases. As to climate, it is very difficult to lay down rules for asthmatics; but, the dry and high altitudes are more beneficial than the seashore.

[Doctor Johns' interesting paper brings to my mind one interesting point, which is developed by Dr. Thomas Lewis of London. (See page 247, this issue.) He thinks dyspnea due to acid intoxication.

One remedy which we should like to see tried more extensively for the relief of asthmatic attacks is lobeline sulphate, hypodermatically. Solis-Cohen reports remarkable relief from the use of aspidospermine. More remedies of this class should be tried.—Ed.]

What Others are Doing

PURULENT WOUNDS TREATED WITH SUGAR

Having satisfied himself, first, that commercial (German beet-) sugar is free from pathogenic germs, and, second, that saccharine solutions retard the growth of germs, if concentrated even killing them, Doctor Magnus (*Munch. Med. Woch.*, 1913, p. 406) began to use it in dealing with infected wounds. The results have been very encouraging. The sugar, he explains, causes a pouring out of serum, thus washing the floor of the lesion from the inside; the smeary coating is loosened, the fetid odor disappears, and conditions for healing are established. Only in tuberculous wounds the method proved a complete failure.

SUGAR AS A SUBSTITUTE FOR SOAP

In a little article in the January number of *The Medical Council*, Douglas H. Stewart recommends the use of ordinary granulated sugar in the place of soap for the cleansing of hands and of wounds. Some time ago he made a series of culture experiments. After washing his hands with soap and water, he found that the skin invariably revealed the presence of pathogenic germs even after the most strenuous scrubbing. Then he substituted washing the hands with sugar for five minutes, followed by five minutes' washing with chloride of lime and water. At present, it appears, he uses just sugar alone, and finds it an efficient as well as convenient antiseptic.

His advice to the doctor is, to clean his hands with granulated sugar, and also to dress wounds with it, if nothing better happens to be available. Try it, he says, for the removal of paint or plaster-paris, also to remove oil, grease or vaseline mixed with dirt. A little soap may be used first for mechanical cleansing, after which sugar and water followed by chloride of lime and water will render the hands or the skin sterile. If it is desired, the sugar may be scented, of course; thus, a little oil of geranium may be added for esthetic purposes.

Finally, granulated sugar, being gritty, takes the place both of soap and water, yet, leaves the skin unscratched, soft and smooth; and, while there are some skins which will not stand sugar, there are more which are intolerant to soap. The epidermis of an average person is much less liable to crack or chap in winter after this sugar treatment than when soap is used.

SUGAR AS A CURE FOR ALCOHOLISM

A novel suggestion for the treatment of alcoholism is that of B. L. Spitzig (*Jour. Amer. Med. Assn.*, Jan. 17, 1914, p. 193), who believes the development of the alcohol-habit to be due to the diminished supply of sugars ingested by these individuals. He states that as the supply of alcohol is increased the desire for sugars is correspondingly decreased, until the time comes when alcohol is taken in preference to the carbohydrates.

Spitzig goes about the treatment of these chronic cases by prescribing a sugar-rich diet, such as cereals with cane-sugar, sweet fruits, pastries, chocolate, and ice-cream. When there is a decided distaste for sugar, treatment may be begun by the administration of lactose as a medicinal powder, giving a dram every two hours; later, sugar being added to the diet as the desire for alcohol is alleviated.

Doctor Spitzig removes the accumulated poison by means of cathartics and diuretics, and gradually weans the patient from alcohol by the substitution of highly sugared liquors for the ordinary beverage. Capsicum and nux vomica, in combination, sometimes are necessary during the first week, to allay the gastric irritation.

VERONAL POISONING, WITH RECOVERY

The London *Lancet* reports a case of poisoning with veronal, the amount taken being 56 grains. These were some of the symptoms described: The pupils were widely dilated, but responded slightly to light; knee jerk and plantar reflexes were present; the victim was very ataxic and semiconscious, but did not recognize people; wandering in talk, slept

most of the day; almost pulseless; heart action feeble and intermittent, and rapid. During the third night he had four epileptic convulsions. Recovery ensued after five days.

AFTER-TREATMENT OF OPERATION FOR FISTULA

After describing the technic of the operation for the removal of fistula in ano, P. Lockhart Mummery (*Lancet*, July 12, 1913, p. 72), makes some interesting suggestions concerning the after-care of these patients. He states that the dressings should be changed twice a day. He lets the patient sit in hot baths containing a little antiseptic; the dressings soak off in this bath, when the nurse washes the wound with a weak phenol solution and redresses it. Thus the dressings are changed twice daily and sometimes oftener—always, of course, after the bowels have acted.

The wound never should be plugged after an operation of this kind, but a small flake of sterilized wool should gently be laid in the deeper part of the wound, so as to prevent premature healing of the more superficial parts; great care being taken to preserve the delicate new skin at the growing edges of the wound. One of the best dressings at this stage is wool soaked in sterilized oil. The oil protects the delicate granulations and prevents their being damaged when the dressings are removed.

If the wound shows a tendency to stop healing, a stimulating dressing should be applied, such as pure ichthyol, red wash or Friar's balsam, but these should not be put on too frequently. When nearly healed, nothing at all is put in the wound, but a pad of wool is tied over the anus. The patient should not be allowed to sit up or walk until the wound is soundly healed.

VERTIGO: SIGNIFICANCE AND TREATMENT

Vertigo is an exceedingly common symptom, but it is not always easy to ascertain its exact cause; hence, because of the lack of this knowledge, treatment often is likely to be unsuccessful. Some light is thrown upon the subject by a paper in *The British Medical Journal* (Nov. 8, 1913, p. 1219) by Dr. J. S. R. Russell. We give in brief the various causes for this condition as mentioned by Doctor Russell:

1. Aural vertigo. This is the most common cause of the more severe forms. The most important accompanying symptoms are tinnitus or deafness, or both, tinnitus, however, being the more constant. Neurasthenia may result in vertigo, but sometimes neurasthenia may cause symptoms simulating true aural vertigo. These symptoms generally are unilateral.

2. Arteriosclerosis of the cerebral vessels may cause vertigo. Important accompanying symptoms are headache, a sense of fullness in the ears (this being bilateral, not unilateral as in aural vertigo), and a full, bursting sensation, which is referred to the head in general, and not particularly to the ears. The absence of impairment of hearing favors the diagnosis of arteriosclerosis. It should be remembered that symptoms of intracranial tumor may simulate those of the condition described. Investigate the retinal vessels, the blood pressure, and the constituents of the urine.

3. Ocular vertigo. There is no doubt that eye troubles and ocular defects may cause vertigo, although the author is skeptical as to the influence of errors of refraction. Certainly acute paralytic affections of the eye-muscles may cause this symptom.

4. Gastric and hepatic vertigo are not uncommon. In these cases there are evidences of derangement of the stomach or liver, such as vomiting, for instance. The order of onset of symptoms is important: in these cases the gastric symptoms antedate the vertigo and other symptoms, while, when the vertigo is cerebral or aural in origin, vertigo occurs before nausea or vomiting.

5. Epilepsy is a common cause of vertigo, the well-known aura, or preconvulsive stage, being the most striking symptom. In pronounced cases of epilepsy the convulsion renders the diagnosis easy. When convulsions are absent, diagnosis is more difficult. There is not the same tendency for giddiness to persist after the return of consciousness in epilepsy, as is the case with aural vertigo after the patient has regained possession of his faculties. The sphincters never are relaxed in aural vertigo, as may happen in epilepsy. After an epileptic attack, however slight, the patient frequently falls asleep; but this symptom is not necessarily typical. Tinnitus may occur during the epileptic aura, but it does not persist in the intervals between attacks, as in aural vertigo, and the symptoms of deafness or fullness in the ears, which may usher in an attack of epilepsy, do not often persist.

6. Intracranial tumor may cause vertigo when the tumor is situated in the cerebellum or in its vicinity. It is only in the absence of optic neuritis that difficulties of diagnosis are likely to occur in these cases, which are not always easy to differentiate from arteriosclerosis. Investigate the retinal field and look for evidences of renal disease. The existence of facial paralysis in conjunction with deafness and in the absence of suppurative disease of the middle-ear is reliable evidence of intracranial mischief, such paralysis of the facial nerves never occurring with aural vertigo except when the middle-ear is suppurative.

7. General diseases of the nervous system, such as disseminated sclerosis, occasionally may cause vertigo. Nystagmus is common in this affection and in aural vertigo; but diplopia, so frequently complained of in disseminated sclerosis, does not occur in aural vertigo. Defects of vision, defective action of the sphincters, a tendency to incontinence of the urine, and alteration of the tendon jerks are common symptoms of disseminated sclerosis.

The treatment of vertigo will, of course, depend upon its etiology. Rest and the avoidance of movements of the head are important factors, and sedative drugs are of value in all cases except when the eyes are at fault. The bromides are particularly praised by Doctor Russell, although he makes use of quinine in aural vertigo.

Of course, ocular vertigo calls for correction of the eye trouble, gastric and hepatic vertigo require attention to the alimentary canal, and the other diseases mentioned call for the indicated remedies.

LARKSPUR LOTION FOR PEDICULOSIS

Apropos of the recent discussion of the treatment of lousiness—more gently denominated pediculosis, pediculation, and phthiriasis—in which stavesacre was mentioned, a suggestion for preparing such a head-wash may interest some of our readers. The formula was published by O. Raubenheimer in *The American Druggist* of New York City, in which latter community, it will be remembered, the school-board is sore put to it to eradicate the pestiferous pediculus capitis nurtured by un-Americanized immigrant citizenry.

The formula: Larkspur-seed, in coarse powder, Gm. 100; acetic acid, Cc. 50; glycerin, Cc. 50; alcohol, Cc. 100; water, to make Cc. 1000. Put into a flask 800 Cc. of water and the acetic acid and glycerin, close

the vessel and boil for ten minutes. When cold again, add the alcohol and let stand for a day. Then filter, and pass through the filter more water, to complete 1000 Cc.

STAPHISAGRIA, DELPHINIUM AND DELPHININE

Mr. Raubenheimer terms his louse-exterminator (described in the preceding item) *lotio calcatrippæ* or, in the vernacular, larkspur lotion. This suggests a few remarks anent this practically forgotten drug.

Larkspur is a native of Europe, and its botanical name is *delphinium consolida*, with the synonyms of *consolida regalis* and *consolida calcatrippa*.

Stavesacre, also a European (south) plant, is a closely related species, being known, botanically, as *delphinium staphisagriæ* (or *macrocarpa*), the seeds bearing the suggestive name of *semina pedicularis* (German, "laeusesamen").

There are a number of other species of *delphinium*, all of which are possessed of similar properties, the predominant active constituent being the alkaloid delphinine in relatively greater or smaller percentage, *staphisagria* being considered the strongest among these plants. The seeds are the portion commonly used, although the roots and the herb also contain the alkaloid. Other alkaloids identified are: delphisine, delphinoidine, *staphisagraine*, *staphisagroine*.

Delphinine is a powerful irritant poison, somewhat resembling aconitine in its action, although stated to be much less poisonous, and it has been employed (sporadically) in neuralgia. It affects respiration similar to aconitine and depresses the circulation, without being a heart-poison. Lethal dose for a cat or dog is 1.5 mg. Delphinin kills these animals in doses of 0.7 to 1 mg. Felter gives the therapeutic dose as 1-60 to 1-10 grain, to effect. Delphinoidine is less toxic than the two preceding alkaloids. We have no record of any physiologic tests with the other principles. But one more item of interest is the assertion by Heyl and Lohmann (1903) that *delphocurarine* might serve as a complete substitute for *curarine*. This alkaloid (now declared to be a mixture of several principles) is a constituent of *delphinium bicolor* and of several other species.

Staphisagria scarcely is heard of these days; still, bearing in mind the powerful specific properties displayed by the various principles, it does seem a pity to let this drug go by unnoticed without giving it a complete try-

out. The very fact that delphinine influences the nerve-centers similarly to aconitine, yet, in different degree and lacking certain properties, would seem to promise for it an important place in the battery of therapeutic weapons. Similar to aconitine yet, not the same!

Moreover, a glance at Eclectic materia medica quickly demonstrates that some men have ascribed to staphisagria remedial value compassing a wide range, not merely in neurologic practice but in other directions, even in dermatology. In proof, the reader is referred to Lloyd's American Dispensatory, and to the Materia Medica of Webster, Ellingwood, and Scudder. The latter—more conservative—summarizes its properties about as follows:

It influences the lower pelvic organs; useful in diseases of the male and female genitourinary organs where there is mucous discharge, as also in similar conditions of the rectum; beneficial in spermatorrhea, nocturnal emissions, prostaticorrhea, and urethritis. Other affections mentioned (by Felter) are: hysteria, hypochondria, vomiting of pregnancy, ophthalmia. While many of these and the other uses mentioned by older writers presumably can not be defended, it seems that, in general, by whatever name paraded, the successful employment of this drug has been where the circulation, and especially irritated and painful nerves, had to be influenced.

As a matter of interest, the following statements in the fourth edition (1839) of the United States Dispensatory may be appended: Larkspur, seeds and roots, (*delphinium consolida*) is esteemed as a diuretic and is useful in asthma and in dropsy. The flowers formerly were believed to heal wounds; hence, the name *consolida*. The native species, *D. exaltatum*, possesses similar virtues.

Under *Staphisagria*, we are told that the seeds formerly were used as an emetic and cathartic, but have been abandoned in consequence of their violent action. The powder, as a salve, is employed in cutaneous diseases. The infusion is used like *cocculus* for poisoning fish. *Delphia* [*delphinine*] affects the nervous system; Turnbull giving the "pure *delphia*" to the extent of "3 or 4 grains a day, in doses of 1-2 grain each, without exciting vomiting, although at times purging." [His *delphinine* must have been very impure!—Ed.] It acts as a diuretic and produces tingling all over the body. Externally, Turnbull said the "*delphia*" acted like veratrine, producing more redness and burning,

but less tingling. He employed it in neuralgia, rheumatism, and paralysis, considering it preferable to veratrine in the latter affection. He dissolved from 10 to 30 grains of the "alkali" (sic!) in an ounce of lard or alcohol, applying this with friction until skin tingling is felt.

This note on Turnbull's statements we find carried forward unchanged to the very latest edition of the Dispensatory. Many famous chemists and pharmacologists, including Kobert and Dragendorff, have concerned themselves with these substances, but nothing practical has come of it. There can be little doubt that the same awe that forbids clinical experimentors even today to touch aconitine has deterred physicians from approaching the alkaloids of the *delphinium* group.

"LAUNDRY WORK" FOR THE BLOOD

The story of the achievements of some of our medical investigators reads like a romance, or at least it would could we divest it of its technical phraseology and put it in language which the ordinary man can understand. Take, for instance, the wonderful experimental work conducted by Abel, Rowntree and Turner upon the removal, by means of dialysis, of diffusible substances from the blood of living animals, as reported in the January number of *The Journal of Pharmacology and Experimental Therapeutics*, and already referred to in the newspaper press.

The very ingenious apparatus devised by these men for the purpose named, consists of sixteen connecting celloidin tubes, all enclosed in a large glass jacket like a Liebig's condenser, provided with an inlet for attachment to the carotid artery on one side of the neck, and an outlet for attachment to the jugular vein on the opposite side. With this apparatus, the experimentors have succeeded in washing the blood of dogs so as to remove various toxic or other diffusible substances, thereby relieving the kidneys from their burden of work. In fact, the apparatus constitutes an artificial kidney, having the advantage that it can be used to remove any desired substance, while its work can be kept under control.

The method of operation of this "blood-laundry-machine" is as follows: The connecting celloidin dialyzing tubes (most chemicals pass readily through celloidin, but not colloids) are filled with a physiologic saline solution. They are tightly enclosed in the glass jacket, which also is filled with this

solution. The collecting ends of the system of tubes are then connected with the artery and vein, respectively, and by means of an ingenious apparatus a small amount of hirudin is admitted near the arterial connection, this leech extract preventing the coagulation of the blood. When the body connection is completed, the blood rapidly displaces the saline solution in the tubes, flows through the washing apparatus, and is readmitted to the body of the animal at the external jugular.

It is surprising to learn that for short periods a dog will tolerate the removal from the body into the dialyzing apparatus of as much as 40 Cc. per kilogram of body-weight of the mixed blood and saline solution for a short time, while 30 Cc. may be kept in the tubes for several hours without causing the death of the animal. Expressed in terms of the human body, this means that from four to five pounds of diluted blood could be outside the body for a time, though connected with it.

Such substances as urea, sugar, phosphates, the toxic sulphur bodies, amino acids, and other normal or abnormal constituents of the blood will dialyze through the tubes into the surrounding fluid. However, any constituent of the blood which it is not desired to remove from the body, can be retained in the tubes by adding to the fluid in the jacket the proper portion of urea, sugar, sodium chloride or whatever may be required.

Experiments were made upon dogs with regard to the possibility of recovering salicylic acid from the blood when this remedy or its salts was introduced into the blood. In every instance it was found that the apparatus did practically the same amount of work as the kidney itself, so that its possibilities as a cleansing agent are apparent, considering that it has not yet been perfected and is capable of great improvement.

As yet no records are given of the use of this apparatus in the treatment of human disease, but it would seem entirely feasible and quite safe to use this or some similar apparatus in the treatment of various grave intoxications that now too often defy the efforts of the physician. "Washing the blood" should prove useful in the treatment of uremia, the acid intoxications of diabetes, the intoxications due to the retention of bile and its by-products, and in many other conditions in which harmful metabolic products are retained within the body. Furthermore, the apparatus temporarily reduces blood pressure. Also, it *might* be used to introduce drugs into the blood.

This discovery certainly opens a new and enticing field and promises to be the means of alleviating the symptoms of some of our most dreaded diseases, and possibly of effecting cures.

IS THERE HOPE FOR THE TABETIC AND PARETIC?

The researches of Noguchi, completed within the last twelve months, have demonstrated that in the case of general paresis of the insane and probably also in tabes dorsalis we are dealing, not with a parasymphilitic disease, but with a real, active infection with the spirocheta pallida. But why, then, do these patients resist treatment with the ordinary specific remedies, and especially with salvarsan? The answer to this question is furnished by Swift and Ellis in *The Archives of Internal Medicine* for September, 1913 (p. 331).

In this paper, it is declared that the lack of success in brain syphilis is due to the fact that the cerebral areas are inaccessible to remedial agents circulating in the blood, as ordinarily administered. Unfortunately, when salvarsan has been introduced into the cerebrospinal canal of animals, it has produced directly harmful results; thus, contraindicating its employment in this manner in the treatment of cerebral syphilis. Swift and Ellis have devised, however, a method of treatment which overcomes this disadvantage and has given some most encouraging results in highly discouraging cases. This method of treatment, together with a number of illustrative cases, is published in detail in two papers written by Hough and McCaskey (*Jour. Amer. Med. Assn.*, Jan. 17, 1914, p. 183).

This method consists in the intravenous administration of neosalvarsan, with subsequent withdrawal of the patient's blood, and the reinjection of the serum obtained from it into the cerebrospinal canal. The technic is as follows:

One hour after the intravenous injection of from 0.3 to 0.9 Gram of neosalvarsan, 50 to 60 Cc. of the patient's blood is withdrawn by means of venous puncture, the clear serum is separated, diluted to 40 percent with normal salt solution, heated to 56° C. (132.8° F.) for half an hour, then kept in a cool place until the following day. Before using, it is warmed to body-temperature and then injected into the subarachnoid space by means of lumbar puncture, after first withdrawing about 15 Cc. of the spinal fluid, the amount of fluid injected being 30 Cc. The serum is

injected slowly, without much pressure. The patient is kept in bed for twenty-four hours, with head lowered. From eight to ten treatments of this kind are given, every second week; then, after an interval of rest, renewed, if necessary, as indicated by the Wassermann and other blood tests.

CARDIAC AND RENAL ASTHMA

In an address at the University College Hospital of London, published in *The British Medical Journal* (Nov. 29, 1913, p. 1417), Thomas Lewis advances the interesting hypothesis that the paroxysms of dyspnea or "asthma," as it is called—occurring in cardiac and renal disease, are due to a diminished alkalinity of the blood; in other words, that any increase in the acidity of the blood interferes with respiration and leads to asthmatic attacks. The asthma ceases when the blood becomes more alkaline. The dyspnea of violent exercise is due to an acid, in such cases to lactic acid. Diabetic asthma is the result of diacetic and oxybutyric acid.

Doctor Lewis is of the opinion that acidosis is the cause of dyspnea in a very large number of the patients found in our hospital wards. Also, it seems probable that in many cases this form of intoxication accounts for the increased pulse frequency and loss of cardiac tone. He describes two forms of acidosis, that due to a volatile acid, and that due to some nonvolatile acid. He believes that this classification and these facts regarding the etiology have considerable practical significance; however, he does not go deeply into the method of treatment.

To readers of *CLINICAL MEDICINE*, the value of alkalis and alkaline combinations in many of these asthmas, whether of cardiac or renal origin, or due to some other cause, will immediately suggest itself.

ANAL FISSURE CURED WITH TINCTURE OF IODINE

Patients suffering from anal fissure are now generally sent to the operating-table for cure, but Maschat (*La Province Médicale*, Dec. 20, 1913, p. 565) declares that this "complicated and brutal" method of treatment is unnecessary and that these patients can be cured by the application of a very simple remedy, namely, tincture of iodine. Maschat has employed this method for fifteen years, and has always succeeded with it, he tells his readers.

The site of the fissure having been determined, Doctor Maschat informs his patient that he is going to apply a dressing that will cause a little pain for a few minutes, but will effect a cure; if they are not willing to submit to this, then they must submit to an operation. They invariably prefer the cauterization.

With the help of an assistant, he exposes the fissure, cleans it with cotton dipped in boiled water, and then paints it thoroughly with tincture of iodine, and that is all. This treatment is repeated three or four times at three- or four-day intervals. From the first day, pain is reduced, and after the third cauterization the cure is complete and permanent. The pain, while a little severe, especially at the first application, lasts only a few minutes, and is always easily borne; so well, in fact, that only very rarely is it found necessary to make cocaine applications. Every patient whom Maschat has seen and treated has been cured by this method. In one instance, the patient returned to him after some years on account of a recurrence of the trouble, but three applications restored him completely.

EMETINE WILL STOP HEMORRHAGE

In a most excellent résumé of the recent developments in emetine therapy, published in the *Gazette des Hôpitaux* for December 23, 1913 (p. 2318), Brelet gives some very interesting facts concerning the use of this drug in the treatment of hemorrhages of various kinds.

Emetine, it appears, is now considered probably the most effective remedy in the treatment of hemoptysis. It was the fact that, in cases of amebic abscess of the liver treated with emetine hydrochloride the pus ceased to become reddish and bloody, that suggested its employment for this purpose—this, and the fact that Trousseau recommended ipecac in the treatment of hemoptysis.

Flandin and Joltrain reported, to the Medical Society of Hospitals, striking successes with this drug in this condition. Some weeks later, Flandin reported seven other cases, and then Lesné, Rénon, Léon Bernard and Paraf, and Josué and Belloir gave the method a trial and all had excellent results. Flandin alone has personally seen twenty cases of hemoptysis successfully treated with emetine. (*Société Médicale des Hôpitaux*, July 18.)

The method of employment is the same as in dysentery, the emetine hydrochloride being

injected hypodermically in 1-2- to 2-3-grain doses. Even when the bleeding is at its height, the hemorrhage is arrested almost instantaneously; and this result is obtained with the emetine without the patient's presenting any of the distress, nausea or vertigo so frequent when the condition is treated with ipecac in large doses. During the twenty-four to forty-eight hours following the injection, dark-colored sputum continues to be raised, as is usual after hemoptysis.

It should be added that this remarkably effective and rapid alleviation of hemorrhage following the emetine treatment is not always maintained for a very long time, so that Flandin advises repeating the injection every three or four days, while in some cases it is even advisable to repeat the injection daily until the condition is completely under control.

How the drug arrests the hemorrhage is still unknown. It does not modify the arterial pressure, neither does it increase the coagulability of the blood, nor does it cause any change in the number of the red or white blood-cells. Lesné is of the opinion that it acts directly upon the pulmonary circulation through the vasomotors.

Several other French physicians have reported the employment of emetine in other forms of hemorrhage, as for instance that occurring in typhoid fever, also in uterine hemorrhage, hemorrhage occurring in cancer of the intestine, and other forms. There is considerable diversity of opinion as to its value in cases of this kind. Thus, Ramond, for instance, declares that following the subcutaneous injection of emetine hydrochloride in 2-3 grain doses "intestinal hemorrhage ceases as by enchantment," but not all investigators have observed equally happy results.

Upon one thing, however, practically all these observers are agreed, namely, that in the treatment of pulmonary hemorrhage we have in emetine hydrochloride, administered hypodermically, probably the most valuable remedy thus far introduced.

RADIUM IN INTERNAL MEDICINE

Judging by the quantity of literature upon the subject, radium is a remedy which must be reckoned with in the future. According to Rowntree and Baetjer (see *Jour. A. M. A.*, Oct. 18, p. 1438), this remedy increases the uric-acid output and brings about the disappearance of tophi or other deposits; causes a reduction of blood pressure even to the extent of from 20 to 25 mm.; causes an increase

in the number of red blood-cells, and a temporary but considerable leukocytosis; increases the volume of the air breathed, the oxygen consumed and the carbon dioxide expired, thereby raising the respiratory quotient; has an accelerating influence upon the coagulation of blood; and, finally, increases the activity of ferment production—influencing favorably the flow of pepsin, pancreatin, rennin, diastase, and other digestive enzymes.

A large number of case-reports are collected by the authors, in which good results are based upon the use of radium in various diseases, among them arthritis deformans, chronic rheumatism, gout, neuralgia, lumbago, neuritis, and tabes dorsalis. The number of cases reported by Rowntree and Baetjer themselves is relatively small, and, while good results were obtained, they are not as flattering as those reported by some of the more enthusiastic observers.

Radium is now administered in a number of ways, including: as a bath, in certain radioactive springs; subcutaneously, in the form of water charged with emanations; in the form of cotton compresses soaked with radioactive water; by drinking the radium emanations in water solution; by inhalation in an emanatorium—an airtight cabinet into which radium emanations have been introduced.

The authors state that the value of radium is unquestionably established in various forms of arthritis, in gout, sciatica, neuralgia, neuritis, and the pains of tabes.

PERHYDRITE: A DIOXIDE-YIELDING POWDER

Perhydrate—chemically united hydrogen dioxide and carbamide—is presented to the profession ("Merck's Annual," 1912) as a handy source of hydrogen dioxide. It constitutes a white, odorless, comparatively stable powder, which, dissolved in water (2 : 5), is instantly decomposed into its constituents; yielding a fresh solution of the dioxide, with the presence of the (harmless and generally unobjectionable) carbamide, or urea. In order to obtain a 1-percent solution, 1 part is dissolved in 30 parts of boiled water; 1 : 10 yielding a 3-percent preparation. The water may be warm, this increasing the activity.

Aside from the advantage of such a powder already indicated, there is the further obvious one of convenience in carrying in the satchel for the visiting doctor and surgeon, as well as for patients on a journey who use it as a

gargle, mouth wash or wound disinfectant, while it may serve also for sterilizing instruments, for instance. Moreover, the perhydrite powder constitutes an excellent disinfectant for wounds when employed as a dusting-powder, either alone or in combination.

PROGNOSIS AND TREATMENT OF TETANUS

In a review of the serum treatment of tetanus (*Therapie der Gegenwart*, 1912, October, page 444), Prof. Fr. Rolly concludes, from the experience of various authors whom he cites, that the prognosis of tetanus is favorable in those cases in which the incubation is more than fourteen days, but that the patient will succumb to the disease if the tetanic symptoms occur after an incubation of only seven days.

In the former contingency recovery may be expected even if no antitetanic serum is administered, and in the latter it is probably impossible, in spite of the administration of the serum.

Prof. Rolly assumes that in cases in which the tetanic symptoms occur promptly a fatal amount of toxin is bound so firmly to the nerve-cells that the antitoxin which is introduced with the serum is no longer capable of neutralizing it.

From the experience of various authors in the treatment of tetanus with serum, Rolly concludes that a combined serum treatment is probably most advantageous in tetanus. As soon as the first symptom of the disease appears, an intralumbar injection of antitoxin should be administered, and at the same time "curative" serum, or normal serum, should be injected intramuscularly around the wound or wherever possible into the nerve. The latter injections should be repeated on the following days.

A CASE OF TETANUS

Walter V. Brem (*Jour. Amer. Med. Assn.*, Jan. 17, 1914) reports a case of tetanus treated successfully according to the "rational" method of Ashhurst and John. (See *Amer. Jour. Med. Sciences*, Aug., 1913, p. 77. Abstract follows.) The patient in this case was injured on the upper lip by a baseball and, after a six-days' incubation period, developed, slowly, a typical attack of cephalic tetanus, a type of the disease in which the prognosis usually is bad.

Treatment was begun two days after the first appearance of symptoms, which for-

tunately developed slowly. Following the suggestions of Ashhurst and John, the tetanus antitoxin was given, not only by the usual routes, but was injected into the sheath of the left facial nerve, after which the surrounding tissues were infiltrated; also intraspinal injections were made, after lumbar puncture, and, finally, the antitoxin was introduced intravenously. In all, this patient received 98,000 units, 23,000 by intraspinal injection, 60,000 by intravenous injection, 8000 by subcutaneous injection, and 2000 by infiltration of the tissues about the site of injury.

The happy result, in the author's opinion, supports the contention of Ashhurst and John as to the desirability of combating the neurotoxin of tetanus from every possible point of access. A peculiar feature of this case was the development of meningitis six hours after the first intraspinal injection. This was shown to be aseptic, that is, not due to the specific organism of meningitis.

THE RATIONAL TREATMENT OF TETANUS

The most important paper upon the treatment of tetanus that has been contributed to the medical literature of the last year was that of Ashhurst and John. (See *Amer. Jour. Med. Sciences*, Jul., 1913, p. 77.). As a result of the study of the different remedies employed in this disease, particularly antitoxin, the authors have worked out the following technic, which undoubtedly promises more for the cure of this deadly disease than anything heretofore devised. We urge our readers to employ it in every case of the kind they may be called upon to treat. It is as follows:

"The patient will be placed in quiet, with competent nursing facilities. As soon as possible after coming under observation, whether this be in the small hours of the night or at bright noontide, the motor nerves leading from the wounded part will be exposed, as near to the cord as practicable, and as much antitoxin as each will contain will be injected toward the spinal cord.

"For wounds of the sole of the foot, it is sufficient to inject the sciatic nerve; for those of other parts of the lower extremity, not alone the sciatic, but the anterior crural and obturator nerves as well, should be injected. For wounds of any part of the upper extremity, the brachial plexus should be exposed above the clavicle, and an injection should be made into each of its cords. These operations should be done under general

anesthesia, for which we prefer chloroform. A strong linen ligature is to be looped loosely around each of the nerves exposed; the ends of these ligatures are to be left long and used to identify the nerves and draw them up into accessible positions, for the purpose of subsequent injections of antitoxin, should these prove necessary.

"An intraspinal injection of at least 3000 units will then be made according to the usual technic for spinal anesthesia. If it is possible to prick the cord with the needle, so much the better. Next, the wound of entrance of the infection will be widely opened, all foreign bodies, sloughs, etc., will be removed by forceps, scissors or scalpel; the wound will be irrigated with hot peroxide of hydrogen, swabbed out with a 3-percent alcoholic solution of iodine and loosely filled with gauze soaked in the same solution, and injection of antitoxin will be made (1500 to 3000 units) deeply into the muscular tissues around the wound.

"Continuous proctoclysis, as used in cases of peritonitis, will be given; and by mouth or in the rectal fluid will be administered effective doses of chloral and bromides, at appropriate intervals. Feeding will be enforced; by the nasal tube passed under chloroform anesthesia, if necessary. During the course of the first day, a moderate amount of antitoxin will be administered intravenously; probably 10,000 units will suffice.

"The intraneural and intraspinal injections of antitoxin will be repeated daily, under chloroform anesthesia, until marked decrease in spasticity occurs. Every twelve hours, or less often, a moderate amount of antitoxin will be injected intravenously, or even subcutaneously, so as to neutralize the circulating toxins; but the main reliance will be placed on intraneural and intraspinal injections. The administration of spinal depressants will be continued as long as they are indicated; a comatose state or muscular relaxation naturally are contraindications. The wound will be dressed daily, as above described, until a healthy granulating surface is obtained.

"With such treatment, commenced within twelve hours of first appearance of symptoms of tetanus, we believe the mortality of the disease should not be over 20 percent. Of the 11 patients under our own care, 7 have recovered and only 4 died, a mortality of 36.36 percent. One of these deaths was caused by an overdose of magnesium sulphate. This patient did not come under observation until the fourth day of the disease, and none of the other fatal cases came

under our care until more than twenty-four hours after the onset of indubitable symptoms of tetanus."

THE INORGANIC CONSTITUENTS OF CARCINOMATOUS LIVER

The interesting discovery has been made by A. Robin, of Paris, (*Munch. Med. Woch.*, 1913, No. 16), that carcinomatous tissue of the liver accumulates mineral salts of potassium, magnesium, silicon, and phosphorus, but at the expense of the normal sodium. This knowledge, Dr. Robin (in an address before the Académie de Médecine) declared, might open up a way for rational therapeutic investigations in this field, especially when coupled with the other fact, that cancerous liver fixes iodine, selenium, and organic arsenic. In this connection, he also reminds us that in tuberculosis the potassium in the organism is consumed. Clinicians now should aim to discover inorganic principles capable of uniting with the "receptors" of the substances composing the cancer-cell, and thus exert a modifying, curative influence upon the diseased organ.

THE TREATMENT OF HEMOPTYSIS

The use of morphine and opium in the treatment of hemoptysis occurring in the course of pulmonary tuberculosis is condemned by N. B. Burns (*Jour. Amer. Med. Assn.*, Dec. 20, 1913, p. 2207), who substitutes in its place a treatment in which vascular sedation and saline depletion are combined.

To this end, the patient is placed immediately in a reclining position, is reassured as to the dangers of pulmonary hemorrhage, and directed to keep absolutely still. Nitroglycerin (glonoin) is given in 1-100-grain doses, subcutaneously, as early as possible; then an ice-bag is placed on the chest over any painful point that can be ascertained. The patient is allowed to take cracked ice by the mouth. Providing the patient is not suffering from extreme weakness and there are no lesions of the digestive tract, he is given at once from 1 to 2 ounces of magnesium sulphate. Doctor Burns has not observed any danger resulting from nausea, vomiting and gagging following the use of this drug; still, it does occur to the editor that an effervescent preparation of the epsom salt might advantageously be resorted to.

The beneficial results of this treatment are seen as soon as the purgative action begins. Furthermore, in about eight to ten hemor-

rhages so treated there have been no recurrences, nor posthemorrhagic pneumonias, such as sometimes complicate large dosage with morphine. Doctor Burns is of the opinion that one predisposing cause to hemorrhage is severe constipation, while another cause is too high blood pressure, which is reduced by the profuse catharsis.

In this connection, we particularly want to call attention to the value of hypodermic injections of emetine, recommended so enthusiastically by our French confrères. Read the abstract on page 247. The two methods of treatment might be combined.

POTASSIUM-MERCURIC IODIDE: A POTENT AND SAFE ANTISEPTIC

In view of the numerous deaths which have followed the accidental or suicidal administration of mercuric-chloride in the form of tablets, the physician may well be excused if he seeks to find a substitute for that dangerous drug; and Douglas Macfarlan (*Jour. Amer. Med. Assn.*, Jan. 3, 1914, p. 17) advises the use of potassium-mercuric iodide. This compound is a definite salt, formed by the admixture of mercuric iodide and potassium iodide in the proper proportions. It is a deliquescent substance of yellowish color. The clear, metallic-tasting solution is permanent, and may be kept for months.

Potassium-mercuric iodide does not tend to coagulate albumin; but it is incompatible with the organic alkaloids. A 1-percent solution, when applied to the skin or mucous membrane, acts as a mild irritant, producing, when applied to the nose or throat, the characteristic picture seen in a sharp attack of hay-fever. This local irritant action may be overcome by greater dilution. This drug may be taken internally in comparatively large doses, without any untoward effect, from 15 to 18 drops of the 1-percent solution appearing to be well borne if properly diluted.

Most interesting are the studies as to the antiseptic action of this chemical. Macfarlan found that in the strength of 1 : 80,000 potassium-mercuric iodide solution rendered cultures of the bacillus typhosus, staphylococcus, bacillus lactis bulgaricus, bacillus acidi lactici, and sugary yeast solutions all sterile. Apparently, therefore, it is about five times as potent as an antiseptic as mercuric chloride (which, according to Park's table of germicidal strength, is effective in solutions of 1 : 14,000), twice as potent as mercuric iodide, and three times as potent as pure formaldehyde.

Macfarlan recommends its use as a general

antiseptic, stating that, when greatly diluted, "its local effects and toxicity are insignificant, while its germicidal qualities still remain high." He says: "(1) The drug may be taken internally in doses of 5 drops of a 1-percent solution, without toxic effect. (2) A 1-percent solution has but slight irritant action. (3) A dilution of 1 : 80,000—or nearly one 1-1000th of 1 percent—exhibits marked germicidal powers."

He recommends its use in erysipelas, acne, pustular skin infections, lupus, psoriasis; also in infected burns, old leg-ulcers and ragged wounds of various kinds. Even when subcutaneous infections are involved, such as felons or boils, and there is as yet no pointing or definite formation of pus, a wet dressing with a 1-percent solution of potassium-mercuric iodide will usually reduce the course of the infectious process and sometimes abort it altogether. It is also an excellent agent for sterilizing instruments, the tendency to tarnish being overcome by adding to the solution a little sodium bicarbonate.

Potassium-mercuric iodide also is of service, used internally, in a variety of pathologic conditions. Thus, according to Macfarlan, it exerts a marked effect upon all catarrhal conditions of the mucous membrane, clearing up the so-called common cold, shortening the course of croup and modifying the infectious processes of the nose, throat, and bronchi. [For these conditions calx iodata is to be preferred.—Ed.] He has used it locally in atrophic rhinitis, applied with a swab or spray, with good effects, and also in a number of cases of frontal sinusitis. He further states that the French have used this drug for a long time in treating syphilis and skin diseases, the prescription of preference being widely known as the "one, two, three mixture," the formula for which is: 1 grain of red iodide of mercury, 2 grains of potassium iodide, and 1 ounce of solvent, either water or alcohol.

SODIUM BICARBONATE IN SHOCK

A simple remedy for the treatment of shock, which seems to be of decided value, if we may accept the conclusions of M. J. Seelig, J. Tierney, and F. Rodenbaugh (*Amer. Jour. Med. Sciences*, Aug. 1913, p. 195), is sodium bicarbonate. These investigators have made a series of studies upon dogs, to determine the value of remedies useful in the condition named. Without exception, every injection of a solution of sodium bicarbonate in animals in whom shock had been induced ex-

perimentally caused pronounced rise of blood pressure and increase of amplitude of the heart beat (without, however, any effect upon the rapidity of the heart's action) and an increase in the depth of respiration.

In their experiments, they injected 25 Cc. of a molecular bicarbonate solution. They noted that the increase of blood pressure and the increased amplitude of the pulse followed immediately after the introduction of the fluid, and both were well sustained for considerable although varying periods. The increase in the depth of respiration was so noticeable that it could be observed without the aid of tambour or drum.

Various hypotheses were suggested, to explain the effect of this simple remedy in shock, but none of them (bulk, hypertonicity, alkalinity or free carbon dioxide) showed itself to be the sole cause of the pressor effect of sodium bicarbonate, and the authors were finally forced, by exclusion, to assume that this salt acts specifically on the heart-muscle. The remedy is such a simple one that many physicians no doubt will be inclined to give it a trial in cases of this character.

FURUNCLES AND CARBUNCLES

In the treatment of furuncles, we often obtain most brilliant results when bacterins are employed, declares Jessie W. Fisher (*N. Y. Med. Jour.*, Sept. 6, 1913, p. 469). The invading organism is usually a staphylococcus. When a properly dosed bacterin is administered, the pain disappears within a few hours and the necessity for large incision is usually obviated; a small opening being all that is required, and this simply for drainage. Moreover, the smaller boils usually dry up and disappear without the necessity for opening. Treatment should be continued for several weeks after the active lesions have healed, in order to establish an immunity and to prevent recurrence. For those subject to boils on slight provocation, Doctor Fisher advises the preparation of an autogenous bacterin, which should be kept on hand and administered at the first indication of trouble.

Carbuncles usually are due to infection with the staphylococcus aureus, and, hence, the bacterin employed should, as a rule, contain this organism. If it be injected as soon as the lesion appears, it sometimes works almost like magic. No crucial incision is required, and the lesion heals with little scarring.

When, however, the lesion is advanced before the patient is first seen, difficulties are

greater, of course, but even then the pain usually subsides rapidly, the discharge often is temporarily increased, and the entire necrotic tissue peels off within twenty-four hours, leaving behind a clean, granulating surface. Of course, when the individual's condition is at a low ebb, as for instance in some cases of advanced diabetes, or when the carbuncle involves a very large area, bacterin treatment may be of little avail. However, even in these desperate cases the remedy should be given a trial.

BACTERIN TREATMENT OF ECZEMA

While Jessie W. Fisher (*N. Y. Med. Jour.*, Sept. 6, 1913, p. 469) does not deny the importance of predisposing factors in eczema, she is strongly of the opinion that in some cases of this disease bacterin treatment is of real value.

Whenever an eczema is pustular or a micro-organism can be isolated from the scales or the exudate, bacterins are a valuable adjunct to the treatment. Staphylococcus skin lesions, however chronic, are curable with remedies of this class. She reports the case of a patient (referred by Doctor Murphy, of Middletown, Conn.) who had suffered from eczema for years. He received bacterin treatment for furunculosis, and as a result the eczematous eruption disappeared and the patient remained well for more than a year.

In using staphylococcus bacterins, the dose should not exceed 300,000,000 at three- to five-day intervals, while streptococcus bacterins (when indicated) require only from 25,000,000 to 50,000,000 bacteria to the dose. This treatment need not interfere with any other line of medication, local or general, which it may be desirable to administer.

IODINE-BOTTLE WITH GLASS ROD FOR STERILIZING PURPOSES

A German military surgeon, Doctor Scheel, has devised a practical container for iodine solution to be used for sterilizing purposes (*Ther. Monatsh.*, 1913, p. 50). Doctor Scheel adopted the idea of a bottle already in use with a glass stopper prolonged into a rod extending into the liquid. In the present case, this rod is ribbed, so that the wrapping will not slip off, the wrapping here being asbestos wool. Obviously, this indestructible asbestos in the iodine always is sterile, thus rendering superfluous the carrying along (by the traveling surgeon) of aseptic cotton.

Miscellaneous Articles

The Grape That "Cheers But Does Not Inebriate"

TIME out of mind the grape has been employed both as food and drink, and until within comparatively recent years the latter has been in the form of fermented beverages. However, with the general acceptance of the idea that alcohol is more or less harmful, steps were taken to preserve the juice of the grape in such a way as to retain all the nutritive and other desirable constituents of the fruit without permitting the generation of alcohol. This object has been satisfactorily attained, and the market now offers a representative unfermented grape-juice that will keep well if properly handled.

Grape-juice, in that it offers everything contained in the fruit except the seeds and undesirable solids, gives us not only an admirable fruit-food but a most delightful refrigerant drink. In a mild way, the juice undoubtedly has somewhat of a medicinal action, since its contained tartrates act in a mildly laxative manner. It also exerts a marked tonic influence, but without the immediate stimulation produced by the alcohol of the wines, that is, the fermented juice.

The indications for the use of grape-juice are legion. It constitutes an admirable beverage in fevers, because it is a refrigerant and at the same time a food. It undoubtedly stimulates the renal function to some extent and thus favors greater elimination. Because of its mild acidity, it often overcomes nausea in certain conditions. It likewise stimulates the appetite. Moreover, as a "pick-me-up" for "katzenjammer" it is very effective. It also acts markedly in relieving "that tired feeling."

Not only is grape-juice applicable, in its original form, both as a beverage and a nutrient, but numerous combinations are made from it for use in the sick-room. Quoting from Pattee's "Practical Dietetics," we find the following recipes offered

Albuminized Grape Juice. Take 2 tablespoonfuls of grape-juice, white of 1 egg, sugar, and chopped ice. Put into a dainty glass the grape-juice and the beaten white of egg, and a little pure chopped ice; sprinkle sugar over the top and serve.

Grape Folk.—Take 1 egg, 1 tablespoonful of sugar, 2 tablespoonfuls of grape-juice, and a speck of salt. Separate the egg. Beat the yolk, add the sugar, and stand aside while the white is being thoroughly whipped. Add the grape-juice to the yolk and pour this onto the whipped white, blending carefully. Serve cold. Have all ingredients chilled before using.

Grape-Juice and Egg. Take 1 egg, 1-2 cup of rich milk, 1 tablespoonful of sugar, and 1-4 cup of grape-juice. Beat the yolk and white separately very light. To the yolk add the milk, sugar, and grape-juice, and pour into a glass. To the white, add a little powdered sugar and a taste of grape-juice. Serve on the yolk mixture. Chill all ingredients before using.

Grape Lemonade.—Make 1 cup of lemonade, rather sweet, add 1-4 cup of grape-juice.

Grape Lithia.—Pour 1 ounce of grape-juice into a glass, dissolve in it 2 teaspoonfuls of sugar, and add 4 ounces of lithia water.

Grape Nectar.—Boil together 1 pound of sugar and 1-2 pint of water until it spins a thread; remove from the fire and when cool add the juice of 6 lemons and 1 quart of grape-juice. Let stand over night. Serve with ice water, apollinaris or plain soda-water.

Grape-Whip. Take 3-4 cup of grape juice, white of 1 egg, 5 tablespoonfuls of sugar, and 1 cup of double cream. Beat the white of egg until foamy, add the grape-juice mixed with sugar, and lastly the cream, then beat with a whip-churn. Take off the froth as it rises and drain on a sieve. Pour the un-whipped mixture into a small, high glass and pile the whip on top. Serve cold.

Grape Gelatin.—Take 1 tablespoonful of granulated gelatin, 1-4 cup of cold water, 1 cup of boiling water, 1-2 cup of sugar, the juice of 1 lemon, and 1-2 cup of grape-juice. Soften the gelatin in the cold water, add the boiling water and dissolve; add the sugar, lemon-juice, and grape-juice, strain, pour into cold, wet molds and cool.

This preparation may be served in another, and very inviting, form: When the gelatin is firm, force it through a potato-ricer; then keep on ice until ready to serve.

Grape-Fluff.—Take 1 tablespoonful of granulated gelatin or 1-4 box of shredded gelatin, 1-4 cup of cold water, 3-4 cup of sugar, 1 cup of grape-juice, the juice of 1 lemon, and the white of 3 eggs. Soften the gelatin in the cold water and dissolve by standing the dish in hot water. Dissolve the sugar in the (mixed) fruit-juice and strain the gelatin into it. Set in ice and water and stir occasionally until the mixture begins to thicken, then add, gradually, the well-beaten white of the eggs and beat until the whole is light and stiff enough to hold its shape. Pile lightly in a glass serving-dish or mold, and serve with whipped cream or a soft custard.

Grape-Juice Ice-Cream.—Take 1 cup of cream, 1-2 cup of sugar, and 1-2 cup of grape-juice. Scald 1-2 cup of the cream and add the sugar; cool, add the remainder of the cream and the grape-juice, and freeze.

Grape Sherbet.—Take 3 cups of grape-juice, 1 quart of water, 3 cups of sugar, and the white of 2 eggs. Blend the grape-juice, water, and sugar, and partly freeze. Beat the white of the eggs lightly, add 2 tablespoonfuls of powdered sugar; add this to the sherbet and continue freezing until hard. Remove the dasher and allow the mixture to stand one hour, to ripen. (Pack carefully.)

Grape Ambrosia.—Take 1 quart of milk, 2 quarts of water, 3 1-2 cups of sugar, white of 4 eggs, 1 pint of grape-juice, 1 can of grated pineapple, and the juice of 3 lemons. Mix together the milk, water, sugar, and fruit-juices, and partly freeze. Add the well-beaten white of the eggs and continue freezing until hard.

Grape Frappé.—Take 1 pint of grape-juice, the juice of 1 lemon, 1 pint of water and 2 cups of sugar. Boil the water and sugar together for five minutes, cool, then add the grape- and lemon-juice. Freeze to the consistency of mush. Serve in tall glasses with sweetened whipped cream piled high on top.

Out here in the West we have what we

call the "Wellington grape-juice cocktail." It is simply a "highball"-glass filled with grape-juice, to which is added a dash or two of bitters, preferably Angostura or orange. This is a favorite "pick-me-up" among the transcontinental auto-tourists, but no less so with us who tour for business rather than for pleasure. It is likewise a good appetizer, without a "kick." Some prefer the juice diluted with seltzer, making a "grape-fizz" out of it. Either one acts as a good "bracer" after a hard day's drive. The "grape-highball," in which grape-juice takes the place of the usual alcoholic ("Scotch," "rye," or Bourbon"), is another popular drink among the tourists. It goes without saying that either of these should be iced.

Grape-juice should be the ideal food and drink in typhoid fever. It not only acts as a refrigerant, but in addition may be expected to inhibit the activity and virulence of the typhoid bacillus, because of the acid of the juice. It should be indicated not only in its plain form but in several of the combinations suggested by Pattee, if not in all of them. In fact, grape-juice, in one form or another, apparently is indicated in all conditions wherein a mildly acid food or beverage may be required.

GEORGE L. SERVOS.

Gardnerville, Nev.

THE QUALITY OF THE DOCTOR'S DRUGS

[The letter which follows was submitted by its author, Dr. E. C. Duncan, of Fredonia, Kansas, to the editor of *The Journal of the American Medical Association*, but was rejected—quite properly, we presume—because it was not received until several months after the article of which it is a criticism had been published. Dr. Duncan then sent it to us, with the request that it be printed in *CLINICAL MEDICINE*. We are glad to use it, believing that the many readers of our journal who dispense their own remedies will be interested in the discussion, even at this late date.

While we agree in the main with Doctor Duncan, and disagree in some respects with Professor Puckner, we do want to say that we believe the latter gentleman has endeavored to be absolutely fair and judicial in his treatment of the subject. One mistake—if any mistake has been made—consisted in his failure to compare an equal number of the "regular" and the so-called "physicians' supply" houses. It is self-evident that the larger the number concerned in any inquiry

the greater the likelihood—indeed, the certainty—of variations from the average. For instance, a friend of ours, who has gone through Professor Puckner's report carefully, upon comparing his findings on the products of the first five physicians' supply houses mentioned with those of the five "regular" houses, finds that there is a very slight advantage on the side of the former!

We all of us admit the importance of determining the quality of drugs used in the treatment of the sick—whether by the prescribing or dispensing doctor. For this reason, the work done by Professor Puckner is most praiseworthy. Should it ever be resumed it should, however, be more sweeping in character. Instead of a few samples being investigated—which through accidental variations may mislead—many and repeated samples should be examined. Particularly is this necessary as regards official products, which thus far have hardly been touched by the Council at all. And not only should a few sources of supply be considered, but all sources, not forgetting the largest and most widespread of all, the retail druggist, who probably handles ninety-five percent of the drugs used by the people. In what condition, as regards purity, potency, accuracy of weight and measure, and reliability generally do his wares finally reach the consumer, through prescription or otherwise? This would be an interesting line of research.

As to the trade methods of the firms cited in Doctor Duncan's letter we have no criticisms to offer. Each firm must decide for itself the "line of least resistance" according to its own traditions, and with good business judgment. Nor would we offer a word of criticism of their products. Variations in strength—especially in galenic preparations—often seem unavoidable although no one can justify gross variations. All the houses mentioned we believe to be scrupulously honest.—THE EDITOR.]

To the Editor.—In the *Journal* of September 13, 1913, page 855, you print an article by Professor W. A. Puckner entitled "The Quality of Drugs Sold to Dispensing Physicians."

I have waited for nearly four months for someone more able than I to reply to that article. I wish to state, in the beginning, that I have the highest regard for Professor Puckner and believe him to be absolutely honest; however, I am constrained to say that his paper does not seem equally fair to both sides involved in it.

First of all, it is true beyond successful contradiction that it is unfair to pick fifteen houses that cater to physicians and only five that sell to the druggists. By reference to the list on page 856, you will note that a number of the houses that cater to physicians also sell to druggists with the same freedom they sell to physicians. Also some of the best physicians' supply houses are not included in this printed list.

Looking at the table on page 856, you will observe that two of the firms which the Professor lists as selling to druggists, sell morphine tablets that are below standard, while those of three are slightly above the standard. And, do not overlook the fact that four of these houses sell to the physician with the same keen enjoyment that they sell to druggists. Only one of these five firms sells to druggists only.

Now take table No. 2, page 857, analysis of potassium-iodide tablets, and you will observe that two of the five firms listed as catering to druggists sell tablets that are below standard, while those of three are slightly over standard; yet, as I stated before, four of these five houses sell to physicians as well as to druggists.

Passing to table 3, page 857, we find that of all the twenty firms doing business, the one firm of the five that will not sell to any but druggists, except the order be delivered through the local druggists, viz., Eli Lilly & Co., put out the lowest grade of hydrastis of any of the twenty firms, in fact, 82 percent—lower than any of the "cheap doctors' supply houses." Of the five firms, the average is 102.5, and of the fourteen (for only fourteen are included in this table), 105.99 percent. Hence, you will see that, so far as golden seal is concerned, the so-called "cheap" physicians' supply houses have an advantage, over your druggists' houses, of 3.49 percent in strength. And golden-seal is very expensive.

Now, when you take into consideration that all but one of the five regulars stand anxious and ready to sell to physicians direct, and that their agents call on the physicians with as much regularity as they call upon the druggist, all this talk that the dispensing physician handles cheap and unreliable goods seems the merest cant.

The druggist's whole interest lies in the filling of the prescription and getting the money, and then again filling said prescription and again getting the money. On the other hand, unless you assert and support the theory that all the everyday physicians (general practitioners) are utter fools, you

must concede that they have more direct interest in dispensing pure drugs of standard quality than have the druggists. And any such dispensing doctor, knowing that his reputation and earnings depend on results, certainly will buy the best drugs obtainable.

I have heard it claimed that the physician keeps his drugs until they lose their strength, but that is simply another catch-phrase, and I defy anyone to find more worthless drugs in a physician's office than on the druggist's shelves.

Most of the men whose writings are printed in our *Journal* (A. M. A.) haven't much idea of the ordinary physician who actually does the bulk of the medical work in this country. And, in defense of ourselves, I wish to say that the majority of us are not such idiots as might be supposed. In the past two years I have done little dispensing, and find prescription writing more satisfactory to me. But those who want to dispense know why they want to; and they—we any of us have a right to buy from Parke-Davis, Mulford or anyone else with the single exception of Lilly; and we can buy from Lilly by having the drugs shipped through our local druggists.

I think I have proved to my own satisfaction that the morsel "the doctors buy cheap and nondependable drugs" which rolls so sweetly in the oral cavity of some of the druggists, is nothing but a most disreputable way of trying to force all doctors to write prescriptions. And I submit the following advertisement, which appeared in the Chanute (Kansas) *Daily Tribune*, issue of December 31, 1913.

THE RECORD

63,729 PRESCRIPTIONS FILLED

Twice as many refilled

Over 100,000 family prescriptions filled

NO ERRORS

Let us have yours.

THE LEGITIMATE DRUG CO.

Phone 81.

Cor. Main and Lincoln.

The wail of the druggist certainly is explained. The wail is not for the benefit of the customer, but for himself. Each prescription filled three times!

If Professor Puckner had selected five of the very best houses that cater to the physicians, after having selected the five best in the United States for our druggists' friends, viz., Parke-Davis, Mulford, Sharpe & Dohme, Eli Lilly, Schiefflin, then the test would have a little more weight. Not much, however,

because we physicians buy mostly of Parke-Davis, Mulford, and Sharpe & Dohme. The Abbott Alkaloidal Company, by all means, should have been included in the fifteen that cater to physicians, yet this firm, like many of the fifteen selected, sell to druggists too; and I can testify that, for "results," no manufacturing druggists or chemists in the world have anything on the Abbott people.

I wish to add that the Capphenin Chemical Company and the G. F. Harvey Company sell drugs worthy of the confidence of any physician, druggist, or patient.

E. C. DUNCAN.

Fredonia, Kans.

VENEREAL AND SEXUAL DISEASES

Having read in your January issue Dr. William J. Robinson's paper in which he recommends calcium sulphide in gonorrheal arthritis, I desire to ask whether he has tried Bier's stasis? It seems to give the most satisfactory results.

A. ROSE.

New York, N. Y.

GALLSTONES AND OBSTRUCTIVE JAUNDICE

I have read with pleasure Doctor Musgrove's article, in the December *CLINIC*, on icterus. In a practice of forty-eight years, I have had but three marked cases of obstructive jaundice—one being of the catarrhal variety, and comparatively short duration, although sufficiently protracted to leave the characteristic lemon-colored skin that lasted for two or three months.

One of these cases was caused by the obstruction of the gall-duct by a biliary calculus. This finally was passed per rectum, being octahedral in form and with sides of 5-16 of an inch. The patient was placed on an olive-oil treatment—literally prescribed an oil diet of half an ounce daily for two or three months; during which time several more calculi were passed (the number not being noted). Under this treatment, they seemed to have become softened, although retaining their octahedral form. The subsequent passage of the calculi in their softened condition was not accompanied by much pain, the patient eventually making a complete recovery. Morphine, 1-4 grain, was given hypodermically whenever required to alleviate what little pain occurred during their passage.

In another case, a man of 46 years had, in connection with icterus, valvular disease of the heart, with aortic obstruction. The case terminated fatally. A postmortem (which, by the way, the patient had requested to be made) disclosed enlargement, with dilatation of the walls of the heart, which weighed 28 ounces. I found the gall-bladder packed with 17 calculi, all of them being octahedral in form, the largest one with faces 7-16 of an inch and the others ranging from that down to 2-16 of an inch.

GEORGE D. STANTON,

Stonington, Conn.

[Of course many cases of gallstone-disease demand surgical intervention—but not all. It is surprising how many of these patients—patients who have suffered the unspeakable agony of hepatic colic—get well under the prolonged use of sodium succinate, with such adjuvants as the bile salts, boldine, the salicylates, saline cathartics, and olive oil. Unless symptoms are urgent do not hurry these people off to the city surgeon. Try these remedies. —Ed.]

A BICHLORIDE TABLET AND APO-MORPHINE

I received by today's mail *Helpful Hints*, in which I notice a piece from Dr. R. D. Epting, from *The Charlotte Medical Journal*, Feb., 1913, p. 80, about some uses for apomorphine. I wish to tell of an emergency in that direction.

About the middle of November last I was on a train for Spencer, near Salisbury, North Carolina, when a conductor came into the coach where I was and excitedly asked whether there was a doctor in this coach. A friend sitting with me pointed me out, whereupon the conductor said that a man in another coach had swallowed a bichloride of mercury tablet and needed help. I went in and found the man in great pain and distress. Happening to have some 1-10-grain tablets of apomorphine in my hypodermic case, I quickly dissolved two in a little water and injected the drug into his arm. It was but a few minutes before abundant vomiting took place, much to the man's relief. I then requested the conductor to wire my friend Doctor Stokes at the next station to have an ambulance meet the train at Salisbury and rush the man to the hospital.

About mid-evening I went to the hospital, when Doctor Stokes told me that he had used

the stomach pump and washed out the man's stomach. "But," he added, "you did the very thing necessary and doubtless saved the man's life." If I had had any sodium sulphate, calcium sulphide or sodium hypsulphite, I should have given one of these in the hope that the chemical reaction in the stomach would form an insoluble precipitate of mercury.

L. H. HILL,

Germantown, N. C.

EMETINE HYDROCHLORIDE USED IN INFANTILE HEMORRHAGE

Recently I had an opportunity to try emetine hydrochloride in a case of hemorrhagic disease of a new-born babe, the father giving a history of having suffered from syphilis.

The second day after birth there was hemorrhage from the child's eyes, nose and rectum, drops of blood oozed from the scrotum and penis, and the baby also vomited blood. Upon the third day after its birth I injected one-fourth of an ampule (1-8 grain) of emetine hydrochloride and the hemorrhage stopped for two hours; then it began again slowly, and gradually increased in quantity. On the morning of the fourth day I gave another injection of the emetine and the hemorrhage ceased entirely. Since then the baby has been doing splendidly.

J. B. ROSS,

Chicago, Ill.

[This is the first case we have seen reported in this country of the use of emetine hydrochloride hypodermatically in the treatment of hemorrhage. Our brethren in France are now using the remedy extensively for that purpose and the results are sometimes simply marvelous. For more details we refer you to the little article in our "What Others Are Doing" department, page 247 of this issue.

French physicians now regard emetine hydrochloride, hypodermatically employed, as the best remedy available for the immediate control of hemoptysis (hemorrhage from the lungs) and they are also using it with splendid success for the arrest of hemorrhage of all kinds. How it acts nobody seems to know, but that it is effective there can no longer be any question.

We sincerely hope that the many readers of *CLINICAL MEDICINE* who have cases of hemorrhage to treat—and who have not—will provide themselves with supplies of this remedy for emergency use. Try it in a num-



An Ideal Home and Office for the City Physician

ber of cases and report results. In hemorrhage from the lungs it undoubtedly should be used in every instance.—Ed.

AN ATTRACTIVE HOME FOR A CITY PHYSICIAN

Last month Mr. Busch gave us a plan of a home for a country doctor or suburban physician. This month he provides a plan for the city man. This is designed for someone living in the crowded portion of the town, where land is valuable and the lot space restricted, with a frontage of about thirty feet.

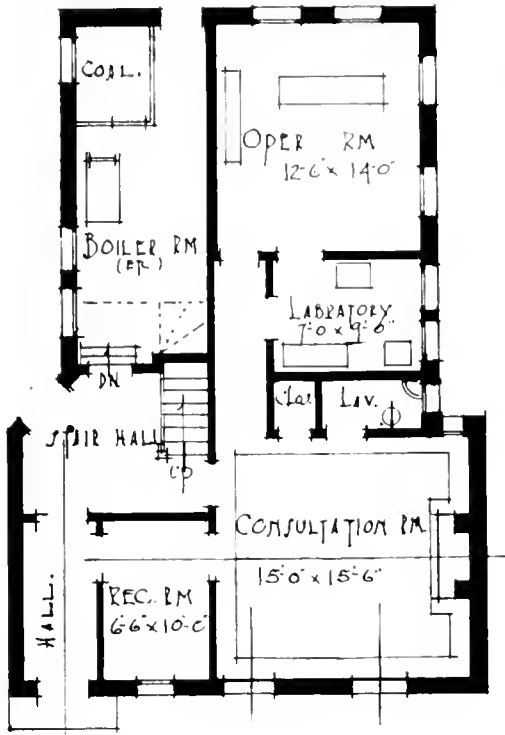
This house can be built of any desired fireproof material such, for instance, as cement, fireproof tile or brick, the latter being suggested. A tile roof will add greatly to its attractiveness.

The first floor, as will be observed, is built level with the ground, according to the English

plan. This makes the house peculiarly convenient for patients wishing to consult the physician. The consultation-room, office, and laboratory are all on the first floor. The living-rooms are on the two floors above. The operating-room is placed at the back, so as to provide an abundance of light. It is suggested that the partition between the operating-room and the laboratory be of glass, in order to increase the amount of light admitted to the latter room.

The large living-room on the second floor and the dining-porch will be peculiarly attractive to the housewife. It is suggested that a door may be opened between the kitchen and the dining-porch, which can also be enclosed in glass and used as a conservatory or sun-parlor during the winter months.

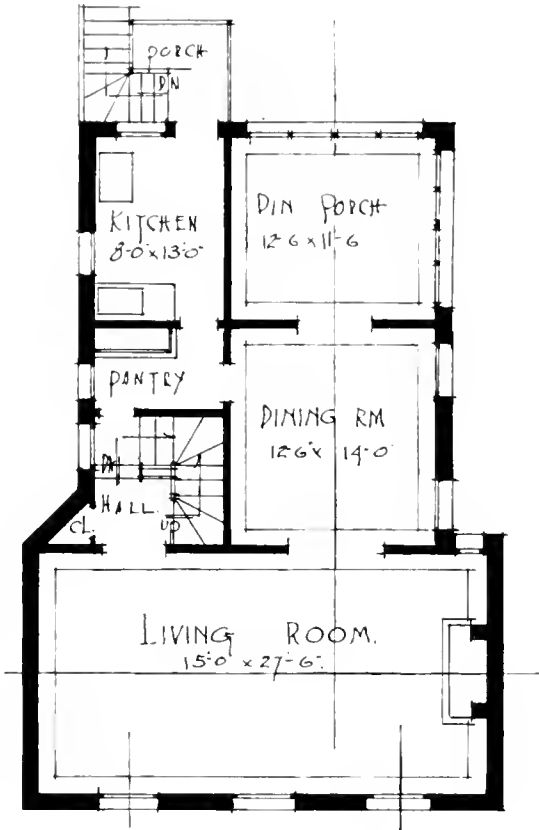
On the third floor there are four large bedrooms. If it is desired, in order to increase the light and improve the ventilation,



Ground Floor, Showing Office

attractive skylights may be placed over the two bedrooms in the front.

These plans were drawn by Mr. Arthur H. Busch, 1306 Gregory Avenue, Wilmette, Illinois, who will be glad to answer any inquiries concerning this house or any other in which any doctor may be interested. Mr. Busch is giving special attention to the planning of physicians' homes and offices and will be glad to hear from any interested physician. Next month he will present a plan of a detached physician's office.



Second Floor, Showing Living Rooms

lon of gasoline. I can consistently say that the Paige "35" has sufficient power and speed to satisfy the majority of automobile enthusiasts. The car is finely upholstered and assembled, all of which adds materially to the easy-riding qualities of any make of car.

After having made a thorough investigation of the different makes of cars, I can say without hesitation that the Paige-Detroit automobile is the best value for the price on the market.

During the severe cold weather of the past two weeks I have been using my car every day, and it has not caused me the slightest trouble. I can say to anyone contemplating purchasing an automobile that there is one other advantage that I consider of great im-

THE PAIGE-DETROIT CAR--AN ANSWER

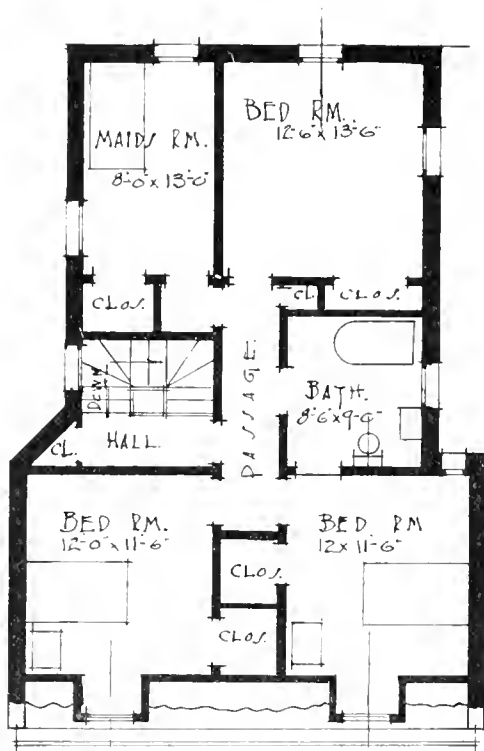
I notice in the February issue of this journal that a subscriber is desirous of learning from some reader of CLINICAL MEDICINE his experience with the Paige-Detroit automobile.

I purchased a Paige 36 horsepower roadster on July 29, 1913, and August 3 started with it on my vacation, going from Evanston to Minneapolis and thence to Duluth, returning home September 3. During this trip I experienced some good roads and some very bad roads, finding stones, ruts, deep sand, and many long, steep hills. Owing to the extremely hot weather and the condition of

portance, and that is the courteous treatment and prompt and efficient service given by the state representative of the Paige-Detroit automobile, the Bird-Sykes Co., of Chicago.

A. G. PORTER.

Evanston, Ill.



Third Floor, Showing Chambers

A HIGH-FREQUENCY PROBLEM

I wish to ask about the use of the portable high-frequency outfit. I have a number of good works on electrotherapy (those of Dugan, Rice, Eberhart, Neiswanger, and others), but from the tenor of their discussions it seems as though they get this current exclusively from large machines or from the static machine.

What some of us "small fry" want to know is, What will one of these portable outfits do? What can we, properly, treat, and what ought we treat? Any information will be greatly appreciated.

R. L. HATHWAY.

East Liverpool, Ohio.

[Not being an authority on this subject,

we referred Doctor Hathway's letter to Dr. Noble M. Eberhart, of this city—who is. Following is his answer:

"Practically all of my treatment work has been done with large high-frequency apparatus. I have never taken a patient whom I treated throughout with any of the portable machines, so that I cannot say absolutely whether the latter will do the same work as the larger ones, or not.

"It seems to me, however, that any of the standard portable machines should be capable of doing all that can be accomplished with a vacuum-tube in the treatment of skin diseases and various surface lesions, and probably all office cases. There is a possibility that in some of the latter, for instance in the treatment of the prostate gland, it may take a longer time to accomplish the same result.

"In the advertising matter of one of the dealers in small machines, I see the claim made, or rather directions given, for treating arteriosclerosis, diabetes, and other constitutional conditions that can be treated only by autocondensation. As a matter of fact, no portable machine that I have seen is capable of giving sufficient dosage to accomplish results. The directions referred to consisted in surface and spinal applications of high-frequency sparks from the vacuum-tube, for arteriosclerosis; but this treatment, to my mind, is positively injurious and would tend to raise rather than diminish the blood pressure.

"Claims like these only tend to discourage the use of high-frequency currents. The scope of the portable coil seems to lie in the treatment of those diseases only in which the trouble is on or near the surface of the body and localized in character. This makes them very valuable, and especially do I see a field for their use in the hands of the general practitioner, who can employ them in his house visits, to reinforce his medical treatment in many diseases that heretofore we have not looked upon as coming within the scope of this form of current.

"It is surely no reflection upon the portable coil to say that it should not be expected to take the place of the large machines. If this were the case, only portable machines would be manufactured, of course.

"To recapitulate: The portable machine can be used for treating skin diseases, neuralgias, neuritis, catarrhal conditions of the nose, throat, eye and ear, and suitable diseases of the orifices of the body; but no one should attempt to treat (and expect results in) arteriosclerosis, diabetes, chronic rheuma-

tism, anemia, gout, pulmonary tuberculosis, and other constitutional diseases."

This seems to cover the matter fully. —Ed.]

HE FINDS IT GOOD

The February number of *CLINICAL MEDICINE* is at hand. I have marked fifteen articles that I think are especially good and to which I expect to refer in the future.

This particular issue impressed me as being the best single number of any medical journal published in the interest of physicians and in which any reputable doctor is given the opportunity to express himself. It is higher in price than some of the other medical journals, but it is one of the best published.

In this connection I wish to express the hope that a number of subscribers will contribute short articles on medical superstitions, for an early number of *CLINICAL MEDICINE*. Ignorance and superstition on the part of would-be doctors interferes materially with the success of reputable practitioners.

O. C. CHURCH.

Greenville, Ill.

MEASLES: A SEVERE EPIDEMIC

During the past thirty days I have seen hundreds of cases of measles. During forty-five years of practice I have never seen the manifestations of the disease as severe as they have been in this epidemic; still, complications have been extremely rare and there has not been a single death so far. There have been, though, certain anomalies.

For example, in a considerable number of cases, on the third and fourth day of the eruption, there was persistent vomiting and a greenish fluid was discharged from the bowels. These patients during convalescence have a ravenous appetite. Then there is a certain number of cases—and these confined entirely to adults, and more especially those who have had the disease in childhood—in which the eruption is sparse, confined entirely to the face and in the hair of the head, and these patients sweat enormously and persistently; fairly are "drowned in sweat." Agaricin, digitalis, aromatic sulphuric acid, and other standbys have no effect. These sweats disappear with the eruption. Will some kind brother stand up and explain?

J. H. WATSON.

Woodlawn, Ill.

[In the more severe cases, vomiting and purging are not infrequently observed. In-

testinal catarrh (with more or less hepatic congestion) causes a troublesome diarrhea and in young or debilitated patients may lead to enterocolitis. A few divided doses of calomel and podophyllin followed by laxative salines and the sulphocarbolates will usually control the condition. It may be well also to administer atropine (gr. 1-500 at two to three hour intervals) to relieve any localized congestion. Three or four doses usually suffice.

Profuse sweating is decidedly uncommon, although in measles we have to deal with "an acute hyperemia with a tendency to cellular infiltration around the blood vessels—particularly those which surround the sebaceous and sudoriparous follicles." It is quite possible that there may be a mixed infection in the patients presenting this peculiar symptom. The clinical data presented are, of course, insufficient to permit the expression of a positive opinion, but these cases certainly are not typical of measles, and it is possible they may be something else. In the first place, the scalp is but slightly involved. It would be interesting to know whether Koplik's spots were observed, and the character and course of the eruption.

It is probable that thorough elimination the administration of atropine and quinine arsenate and the free local use of epsom-salt solution would control the diaphoresis.

The report is of exceeding interest. We hope that others who have seen similar cases will give their experience.—Ed.]

ANGINA PECTORIS: EFFECTIVE TREATMENT

On November 11, 1911, I was called to see a Mr. Leg, who had suddenly been seized with violent pain over the precordial region radiating over the front of the chest and down the left arm, with a sense of impending death but, owing to a previous call to see a Mr. L., who had a stroke of cerebral apoplexy and died five hours later, I failed to go then. The next morning I was asked by the physician, who had been called in my stead, to see this man with him in consultation, and this I did. When I saw the patient I was impressed with the typical character of the case.

The paroxysms came on about every twenty to thirty minutes. The attending physician said he had been unable to control them by giving him hypodermics of morphine and atropine. He had repeated these drugs several times, but without results. After watching the patient for some time, noting the arterial tension and that the vessels assumed

the rigid character observed in such patients, observing also the absence of fever; and further ascertaining that there was constipation and that Mr. Leg was a hearty eater, often neglecting to keep his bowels open, and that his urine often appeared very red and was irritating, I suggested the stoppage of the hypodermics of morphine and atropine and to give in place the defervescent compound of aconitine, veratrine, and digitalin.

The doctor readily consented, and just as soon as the patient began to get under the effects of this agent the attacks grew lighter and farther apart, and very soon ceased entirely. The remedy was kept up for some time. Also, I kept the bowels and kidneys flushed, and suggested that the urine be tested. The result of this examination I did not learn, but have seen and questioned the patient several times since and he always states that he has had no further trouble since we put him on "those little pills."

On October 12, 1912, I was called to see a Mrs. C., who said she could not sleep, not having slept any since about four or six weeks before, because of a gripping pain over her heart and which "spread out over her chest and down the left arm." She had been treated by another doctor, who told her that she had indigestion. But she knew that there was something wrong with her heart. She could not sleep, or, rather, lie down, except she had a very high pillow, since she could not get her breath otherwise. Examination revealed a presystolic murmur, but so faint that it could not be heard without the most careful auscultation. I also examined the urine, but found nothing radically wrong.

I placed her on the same remedies as the preceding patient—the defervescent compound. I happened to see her on the third or fourth day after beginning treatment, when she reported that she was doing finely and that she could now sleep without any trouble, the first time for several weeks. I told her to continue to take the treatment and also to continue to take a saline laxative as directed. She did so and I have not heard from her for several weeks; but up to the present there have been no return of attacks, I am sure.

I was also called to see a Mrs. C., May 8, 1913. I found practically the same train of symptoms. She, too, had been under the care of a splendid physician. I put her also on this treatment, with the result that she has, for some time, been able to walk any distance she has undertaken, and that without difficulty. She had had these paroxysms for

two or three years. Her son lives in our town and he reports to me often that his mother appears to be well.

A friend, Dr. J., called upon me very early on the morning of July 15, 1913, stating that his wife was awakened with palpitation, with great pain over the precordial region, and that this pain radiated over the front of the chest and down the left arm, and that she was terribly distressed therefrom and contended that "her heart was in a vise," and she was sure to die. The doctor gave hypodermics of morphine and atropine, and he told me that he had tried everything in the way of antispasmodics.

I suggested that we get the bowels opened well. This, he said, he had done; but, after some coaxing, I got the woman to take laxative saline draughts freely, and these acted splendidly. However, this did not relieve her, whereupon I suggested giving the defervescent compound. Later, the Doctor informed me that the very first pill given had relieved her and the heart quieted down at once. He kept up the remedy, and she has had no more trouble of that nature since.

It is conceded by the profession that this condition is due to degeneration of the walls of the coronary arteries and of the large vessels adjacent to the heart, also of the heart-muscle. From my understanding, there is a spasm of the heart-muscle, with a pulse of very high tension. The action of the veratrine and the aconitine is, to relax this spasmodic state, and that of the digitalin is, to regulate the rhythm of the heart; this bringing about a condition whereby the heart is better nourished and promoting the diastolic quality of the heart's cycle.

Pardon me for venturing into print, but I am extremely anxious that this capital remedy be tried and reported on.

A. C. WATERS.

Athens, Ala.

THE QUESTION OF FEES

The question of fees or of the doctor's bill, as the case may be, is a very important subject, for it concerns both the doctor and the patient. It is what the doctor is practicing for and what the patient gives for treatment.

Fees vary in different localities just as almost all other things do. They should not be too high nor too low; if they are either, one of the parties is injured. I have often heard common laborers make the remark that Dr. A. charged Mr. B. a certain amount for making a two-mile visit, and then say that

they would be mighty willing to go back and forth all day long for that price. Such people surely do not know that the up to date doctor cannot afford to be feed on the basis of an ordinary unskilled laborer. It should be remembered that the up to date doctor has spent four years of his time at hard study in a medical college and expended many hundreds of dollars while doing so. Besides, he passed the state-board examination, paid out money for equipment, and spent valuable time in building up a reputation. And, also, his living-expenses are much higher than those of a laborer, skilled or unskilled. It is essential that a doctor should charge a liberal fee; cheap doctors, as a rule, are like other cheap things—not worth very much.

At the present time I devote special attention to general chronic diseases, or, in other words, I like to treat chronic conditions. With regard to fees in chronic diseases, I will say that I believe a patient should be treated by the week or month and for a specified amount payable each week or month. When this is done, the patients can quit when they please, and they have no grounds for complaint, as they can be the judge of the results and continue treatment as long as they wish. Modest fees paid cash will enable a physician to do practice cheaper than when a credit practice is done. I do not make any charges to a few of the deserving poor, especially widows and orphans.

J. A. BURNETT.

Hartshorne, Okla.

DREAMERS

"The world," says our old friend Lee, "is made up of two main classes: millionaires and would-be millionaires—the rest are dreamers, vagabonds, thieves, and the like." This is what our friend Lee says, and many there are who would agree with him. But I rebel! Dreamers, vagabonds, and thieves! Why dreamers and vagabonds in the same category? Why? Why should they put me—there, it has slipped out! I am a dreamer.

I wrote to our distinguished editor one day—wrote that I was a dreamer and should like to write for his journal. And, what do you think? Our courteous editor lifted up his hands in quasi-horror and whispered: "No, no, not too much of the dream stuff. Our readers don't like dreamers' articles. What they want is practical stuff."

No dreamers! Well! Of course, I gave up my plans for my series of articles—but I began to think. Our editor is a man of

learning and of strong personality withal. What he says cannot be lightly passed over. Was he right? He evidently classed dreamers in the same category that our friend Lee classed them. Strange! But is it as true as it is strange? I thought a great deal about it, and I began to come to the conclusion that there was something wrong, something radically wrong.

Doctors are practical men, or ought to be. That's true. But there must be a vein of dream—a dream motif—in them, in order that they may achieve results, great results. Else they will always be small practitioners; else they will never get out of the rut.

Oh, yes! a doctor must dream. The more, the better. His whole professional life must be filled in with dreams. Otherwise he'll degenerate into a Doctor Nobody.

He begins with dreaming of a larger, better-equipped office, and he works hard for it and pulls himself up gradually and finally gets it. Then he dreams of better, loving service to mankind, the saving of life and the sparing of suffering in which he is ever the hero. He grows with his dream—expands, studies, keeps abreast with the times, expends every iota of energy and makes every sacrifice, that his dream may come true. Then, one day, he wakes from his dream and finds himself renowned in his locality. He wakes and dreams anew—broadening, striving with might and main—and one day, like our poet Byron, he awakes to find himself famous.

Look into the past of medicine. Whose names do you see? The names of those who dreamed and their dreams came true, who revolutionized medicine and acquired undying fame. What was anatomy when its disciples dissected underground for fear of being tortured? Why, only a dream. And when the dream came true, look at the fields it opened. What was anesthesia, if it wasn't a dream? And when Morton's dream came true, just see what it meant to him and to the hordes of humanity!

Look around you today. What men stand out in the front ranks of the profession? Why, those who have seen a vision and are straining to clutch it and bring it into being—those who dream and work, and make their dreams come true.

Look into the future. What vision do you see? What dream do you dream? Answer carefully, for on your answer depends your future. Dream well, friend, and God grant your dreams come true.

And those others, those who do not dream? Those who plod their beaten way, those who

tread the path that every one knows? Why, they are the millionaires, perhaps; or, more probably, the would-be millionaires who never, never are gladdened by a dream.

So, when I reflect upon these things, I gain courage, and think that perhaps it was well that I was born a dreamer. And perhaps 'tis well that I dream. True, there are many that would gainsay me, but a dreamer never minds such things. *He* does not care. He just dreams, and is glad that he dreams. Of course, disappointments and despair do come at times, and heartaches and sorrows *are known* to him—ah, yes—but anon comes a dream—and he forgets, forgets the misery of the world in his dream.

D. E. PICONI.

Brooklyn, N. Y.

CORRECTION OF AN ERROR IN DR. LYDSTON'S ARTICLE

In the first installment of my article on "Syphilis" in the January number of *CLINICAL MEDICINE* I am made to state that I administered to one of the cases reported, 20 minims of a 20-percent solution of bichloride of mercury intravenously. This should read 20 minims of a 2-percent solution. The error should be charged to faulty proof reading, and I cheerfully accept my share of the responsibility. Some physician whose letter I have mislaid, and whose name I have forgotten, called my attention to the error. I take this means of thanking him. As I had made mention in the rest of the text of solutions no stronger than 2 percent, I trust that the error was so obvious that no harm was done.

G. FRANK LYDSTON.

Chicago, Ill.

TONSILLITIS: AN OBSTINATE CASE

The editor of *CLINICAL MEDICINE* has asked for reports on experiences with tonsillitis. As for myself, I certainly have had my share of trouble in this line this winter and have encountered some of the toughest cases I ever came across. A few cases were mild and came to an end in four to six days; others were about the average, lasting from ten days to two weeks; two terminated by forming abscesses, and I lanced. One of the cases, while it is typical of many others, except for its continued severity for such a long time, I want to report.

The patient, the son of a farmer, was 9 1-2 years of age, rather under size for his years,

and was the second child in a family of five. He was considered tough and wiry by his associates, has had all the diseases of childhood, except scarlet-fever and diphtheria, and had an attack of tonsillitis about one year previous to the present one. His mother says his tonsils have always been large. His former attack kept him out of school for about two weeks.

The present attack began as follows: The boy came home from school in the evening complaining of headache and did not want any supper, going to sleep on the lounge before bed-time. His mother woke him up to put him to bed and found him very hot, but before she was able to get him to bed he was taken with a hard chill. When put to bed he was given, besides hot drinks, antkamnia and quinine, 2 1-2 grains of each (this happening to be in the house), repeated every hour until three doses were given. The chill subsided in time and he had a good sweat.

Next morning he seemed quite well again, except that his throat was sore; but he wanted to dress and go to school. His mother gave him a little breakfast and followed this with a cup of a popular laxative tea, to move his bowels, and ordered him to stay in bed. She also had him gargle his throat with sage-tea, honey, and alum, several times during the day. He complained of his throat but very little and contended that he might have gone to school. The mother said that during the afternoon she saw that his temperature was going up, and at about 8 o'clock in the evening another hard chill occurred.

Thereupon I was called and saw the patient at 9:30 o'clock. He was over his chill and the following conditions were found: Temperature, 104° F.; pulse, 120; bowels had not moved, and no one seemed to know when they had moved last time, the patient being delirious; tongue was heavily coated and the breath very offensive. Both tonsils were badly swollen and dark in color, the swelling and discoloration extending up the faucial arches, involving the soft palate and roof of mouth; the throat also was swollen externally over the region of the tonsils.

The treatment instituted was as follows: Calomel, 1-4 grain, with soda and aromatics, every half hour until 2 grains were given. Two hours after the last dose a saline laxative was given, and repeated every three hours until the bowels were thoroughly cleared. One granule of aconitine hydrobromide was alternated with the calomel combination until the skin became active and the arterial tension

was reduced; then the intervals were lengthened to two or three hours, according to the condition. A large poultice of antiphlogistine was applied externally. A gargle of listogen was left, this to be used freely.

I saw the patient on the following (the third) day at 2 in the afternoon. The bowels had moved thoroughly; the temperature stood at 103° F., and the pulse ran 110; the tongue was heavily coated, the skin was dry; the throat was still more swollen, the tonsils almost met and still were dark-red in color; the soft palate looked like a sack filled with fluid. In fact, it seemed as if all the tissues in that region were involved; he could open his mouth only with difficulty; could not turn his head but had to turn his body; swallowing was extremely painful.

I ordered calcidin (which the patient had already been taking) continued and in place of the aconitine gave the dosimetric trinity, hoping to hold the high temperature within proper bounds. The region over the tonsils was painted with tincture of iodine. The same gargle was continued.

On the following day the boy's condition was about the same. The temperature was 103.2° F., and pulse 120; the throat was still more infiltrated and the tonsils had large whitish patches of coating on them. The bowels were again cleared out with saline laxative, and this was followed by an intestinal antiseptic; the dosimetric trinity was continued, as was the calcidin; the patches of coating were removed by means of cotton wound on an applicator and dipped into the listogen. I also left a gargle consisting of a 1:100 solution of permanganate of potassium.

This treatment produced but slight results in the general condition. On the eighth day of treatment, the patient's temperature was 102° F., and pulse 110; the throat still was bad and the coating continued to form when removed. The patient showed the strain of the disease, for he could take but little nourishment.

On the eve of the tenth day he had another chill and then his temperature went up to 104° F. and the pulse to 128. Both tonsils now were aspirated, in the hope of finding a pocket of pus, but no pus came. I now discontinued the intestinal antiseptic, as the stools were odorless, but began giving nuclein in full doses. To make a long story short, I came very near losing my patient, because we could not get him to take sufficient nourishment; what little he did take was in the form of beef-extract and liquid peptonoids.

On the eighteenth day, his condition was as follows: Temperature, 101° F.; pulse, 110; tongue, heavily furred; throat and tonsils still swollen and deeply infiltrated. The bowels were now kept open with the calomel, podophyllin, and bilein compound, given once a week, followed by the alkaline laxative morning and evening. The patient made no permanent improvement until after thirty days, the temperature remaining normal or below from this time on.

This boy lost six weeks from school by reason of this tonsillitis. Why was this? Was my treatment wrong? And how could it have been improved? Would this boy have been benefited by bacterins? If so, what kind? This is the hardest fight I have ever put up against a case of tonsillitis and seemingly the results were the poorest of any. I will add that the treatment adopted in this case has never before failed me in treating this disease.

I should like to have not only the editor of *CLINICAL MEDICINE* comment upon this case, but the readers also.

C. W. CANAN.

Orkney Springs, Va.

[The treatment followed by Doctor Canan was good so far as it went, but evidently the infection was a severe one and the use of an appropriate bacterin would have saved much suffering and probably have enabled the patient to return to school at the end of the second week.

When dealing with angina tonsillaris (which is most frequently observed during the period between the ages of ten and thirty), it must always be remembered that the condition of the tonsils may be a potent predisposing factor, the bacteria propagating readily in glands which are enlarged or the seat of calcareous deposits. Then, also, what is called rheumatism has been regarded as one of the most constant predisposing factors. On the other hand, however, tonsillitis has been deemed by some the initial manifestation of a subsequent rheumatism.

It has always been pointed out in our columns that so-called rheumatism, tonsillitis, and other acute inflammatory conditions occur in autotoxemic individuals. Prevent or control autotoxemia, in other words, maintain a normal condition of the body-chemistry, and the acute condition will not occur, or will appear in a modified and easily treated form. In the majority of cases the exciting cause doubtless is of a microbic nature.

Angina sometimes is infectious, and not infrequently epidemic. It, therefore, always is desirable to send a swabbing from the throat (especially where false membrane is present) to a reliable pathologist. The diplococcus pneumoniae and bacillus Friedlaender are responsible for many cases of acute tonsillitis; streptococci, staphylococci, micrococcus catarrhalis, and bacillus influenzae are also frequently found in the secretions of the mouth and pharynx. The writer has found the bacillus Friedlaender to predominate in membranous angina.

It must be remembered that, while in some cases the surface of the tonsil is dotted over with irregular islets of inspissated debris, occluding the orifices of the crypts, this material in others extends over the intervening surface of the tonsil in the form of a false membrane and occasionally is observed on the soft palate and uvula. This substance is white, grayish or of a dirty-yellow color, is readily separated, and does not leave a bleeding surface beneath. Both tonsils are generally found to present similar changes.

Our correspondent's patient seems to have presented a typical picture. In the more severe forms of tonsillitis, the glands may be in contact in the middle line and the great swelling of the tonsils distend the anterior faucial pillar, pushing up the soft palate and encroaching on the uvula, which may resemble an Indian club.

Suppuration of the tonsil itself is of rare occurrence. In the milder forms, the disease-process may last only three or four days, but occasionally increases until the fifth or sixth, the local symptoms beginning to decline on the seventh. In the more severe forms, however, an angina may persist for two or even three weeks, and then leave the patient (as in this instance) in an extremely debilitated condition.

The treatment must always be based upon the recognition of a systemic infection. We should have pushed nuclein, echinacea, and calcium sulphide in very large doses, in alternation with sodium salicylate and calicidin.

In some cases, sodium benzoate seems to give better results than does either sodium salicylate or salicylic acid. Thorough elimination must, of course, be secured at the start, and maintained throughout the course. The urine should be carefully examined from time to time, and albuminuria guarded against. When there is much secretion, an alkaline lotion should be used locally, and the parts then swabbed with a strong solution

of salicylic acid, potassium permanganate or dilute tincture of iodine. The writer is inclined to favor a 1-percent phenol solution in glycerin.

Externally, colloidal silver, ichthyol or methyl salicylate and guaiacol may be applied. Compresses wrung out of a strong solution of epsom salt reduce congestion. Properly prepared buttermilk, fruit-juices, clam-bouillon, and egg-nog are the most serviceable nutrients. The anemic condition so frequently following prolonged tonsillitis yields readily to a course of the arsenates of iron, quinine and strychnine, with nuclein, and some good defibrinated preparation of blood.—Ed.]

A CONVINCING DEMONSTRATION OF TYPHOID BACTERINS

Called to the bed of a sick man, I found a person about 40 years of age, of plethoric temperament, tall and robust, and weighing about 190 pounds. He was severely sick, complaining of occipital headache, disordered stomach, muscular weakness, and depression, and I found he had a moderately distended abdomen. His high temperature—105 degrees—followed on the heels of a chill lasting between a half and one hour, and he had ever since been restless and sleepless. I made a provisional diagnosis of typhoid fever, and prescribed epsom salt, the three sulphocarbolates, aconitine, hydrochloric acid, echinacea, and other things, according to the usual indications for typhoid fever at that early stage. This was September 5.

The patient was again seen on September 7, when his temperature still stood at 105 degrees, with the symptoms enumerated in more aggravated form. I then administered a bacterin containing 300,000,000 dead typhoid bacilli, discontinuing the aconitine and making a little change in the internal treatment. On the morning of the 8th, his temperature had dropped to 101° F., with an alleviation of all the symptoms. His temperature on the 8th and 9th did not reach quite 102° F. The neighbors and family began to doubt my diagnosis, especially on account of the sudden onset of the disease. At 9 a. m., September 10, his temperature was down to 99.5° F., and I was afraid to administer a second dose of typhoid bacterin, not having had enough experience with it, and left, satisfied with ordering internal medication.

On September 11, at 4 p. m., I was again at the patient's bedside, and the temperature

now stood at 105.5° F., there was the same severe occipital headache, depression, restlessness and other symptoms as at the start. I administered 400,000,000 dead typhoid bacilli, and, for fear there might be additional infection, I gave, in addition, streptococcus pyogenes, 30,000,000; pneumococcus, 40,000,000; colon bacillus, 40,000,000. On the morning of the 12th, the patient's temperature fell till it reached 97 degrees, and he dropped off into a deep sleep and sweated most profusely. This practically ended the patient's illness and I made no more visits.

On October 2, the man came into my office for a "little medicine for constipation." He told me that since the crisis he had been practically well, only feeling weak, and that his temperature had been normal, except that once in a while it would go up to 100 and once to 101 degrees.

At present I have under the bacterin treatment four other cases of typhoid fever. One of these patients is going through a relapse after having been treated for three weeks by the old method. He was up for ten days, so he said, and went to town, when he returned home sick with fever. I saw him on the 23d of September. His temperature was 103 degrees. He had been having fever for three or four days. One dose of 300,000,000 dead germs (typhoid) bacterin was given. This was repeated on the 26th (400,000,000) and on the 29th (500,000,000). He began to improve from the first dose, the temperature becoming normal on the 30th.

The second patient is a close neighbor to this last patient, and I was called to see him when attending the latter in his relapse. This fellow had a temperature of 102° F. and complained of the usual premonitory symptoms of typhoid fever. He was given a dose of 300,000,000 typhoid-bacilli on September 24, with resulting subsidence of all the symptoms. He was again seen at my office October 5, showing a temperature of 100 degrees and complaining of headache. He was given a laxative and ordered to continue upon a light and easily digested diet. When seen a few days later, he was free from fever and other symptoms, except for some weakness.

The third patient was a pregnant woman in her seventh month. She had been having slight fever for four or five days previous to September 25, when I first saw her. She was now threatened with a miscarriage or premature delivery, having taken 8 grains of calomel the day before. She was having uterine contractions at half-hour intervals

and the os was slightly dilated. The head was low in the pelvis. Hayden's viburnum compound, and morphine (hypodermically) 1-1 grain were given; also acetozone in solution. The foot of the bed was elevated and a rectal enema administered.

The patient residing 10 miles distant, she was not again seen until September 30. The symptoms of threatened miscarriage apparently had ceased, but her temperature remained at around 100 to 101° F., being somewhat lower in the morning. Having now confirmed my former provisional diagnosis of typhoid fever, I administered 300,000,000 typhoid bacilli and continued the acetozone. On the evening of October 1, she perspired profusely, after which her temperature came down to below normal.

On October 1, I was again summoned to see this woman, when I found that the bag of water had been ruptured and the amniotic liquor had escaped to a considerable extent, although she had been taking occasional doses of Hayden's viburnum compound. I waited till the following day, but the patient's strength was so reduced that by then it was apparent she could not deliver herself. So, I applied the forceps—the first time in my practice that I had to resort to that instrument. The recovery was uneventful. The baby died ten hours after delivery.

The fourth patient was seen September 27. He is a man about 35 years of age. Temperature about 104° F.; tongue dry and contracted and of beef-red color, showing severe infection. This patient had been having diarrhea for about ten or twelve days and had been passing some blood in his watery stools; also was delirious. Typhoid bacterin 300,000,000 organisms, was given on the 27th, 400,000,000 on the 30th, 500,000,000 on the 3d of October, and 600,000,000 on the 6th; after which the temperature came down to 94° F. and the general symptoms subsided. The patient was very weak and reduced in strength from the first day I saw him and is now convalescing rather slowly, as may be expected.

I have three other typhoid-fever patients in bed at this writing, all receiving the vaccines and all doing nicely. Typhoid bacterin is all that will be used, practically, in the near future, in treating this disease. Also, I am of the opinion that all cases seen early may be aborted, provided the dose is large enough. With fairness to Homeopathy, it ought to be stated that the use of these bacterins is in keeping with the homeopathic law of cure, "*Similia similibus curantur.*"

although a majority of the disciples of Hahnemann do not see it that way, just because these vaccines had not been "proved" on the living.

Finally, in aborting typhoid fever, we must never fail to make our charges in accordance with the speed and sureness of our method, else we shall commit professional suicide.

I may add this: The last three typhoid patients mentioned live in the house where resides the woman whom I delivered with the forceps, so that there no longer is any doubt about the diagnosis.

MICHAEL SHADID.

Carter, Okla.

[An exceedingly interesting demonstration of the value of bacterins in typhoid fever. However, we hope no reader of *CLINICAL MEDICINE* will depend upon this form of treatment exclusively. Bacterins undoubtedly do good, but just how useful they are is still an open question. Certainly there is evidence enough to warrant their general use in typhoid fever, never, however, to the exclusion of remedies which have been tried and found true.—ED.]

PITUITRIN AS AN AID IN OBSTETRICS

Thinking it may be of interest to the readers of *CLINICAL MEDICINE*, I give here-with, briefly, my experience with pituitrin in obstetric work. I am able to report five cases, as follows:

Case 1. Patient, a multipara, pregnancy of four months. When I was called the woman had been flooding four days and complained of continuous pain. The membranes had been ruptured for twenty-four hours. The os was not dilated. I injected 1 Cc. of a pituitrin solution, and ten minutes later another similar dose. Flooding ceased within five minutes after the first injection, and within thirty minutes everything came away clean.

Case 2. A case of puerperal convulsions occurring in a woman at full term. The physician first called had already ruptured the membranes, but the os was not dilated and the head not fully engaged at the brim of the pelvis when I saw her at 5:30 the next morning, although she had been in pain since 7 o'clock the evening before. I gave this woman three injections of pituitrin at half-hour intervals. Within ten minutes after the last injection the head had descended and was bulging out the perineum. The child

was dead and decomposition had already set in. It weighed 13 pounds. As the mother was nervous and excitable, I gave chloroform and used the forceps. The woman recovered nicely from the convulsions.

Case 3. This woman was a primipara, 28 years old, and had been in labor twelve hours when I first saw her. The membranes had ruptured at the onset of labor-pains, which now were weak. I gave 1 Cc. of pituitrin, and contractions came on stronger within ten minutes; half an hour later the head was resting on the perineum, but, as this would not dilate after six hours, with the assistance of another physician chloroform was administered and the patient delivered with the forceps.

Case 4. This woman, a multipara, was three months pregnant and had been flooding and complaining of pain for five days when first seen. The membranes were already ruptured and the uterine os had not relaxed. I gave 1 Cc. of pituitrin solution at 2 p. m., and another similar dose at 2:30. Within five minutes after the first injection the hemorrhage ceased and pain was relieved. The patient slept for six or seven hours, then woke up in pain; so, another injection of pituitrin was given. The condition of the os remained unchanged at this time. Ten minutes after the last injection the woman was delivered, and everything came away clean.

Case 5.—Patient a primipara, ten weeks advanced in pregnancy. Condition one of incomplete abortion, with retention of placenta. The patient had been in pain for forty-eight hours and was flowing. She had had no pain for two hours when I first saw her; in other words, since the escape of the fetus. The uterine os barely admitted the examining finger. I gave two injections of pituitrin solution, 1 Cc. each, at ten-minute intervals, and the placenta and membranes were passed within three minutes after the first injection.

Pituitrin will stop uterine hemorrhage, whether it occurs at term or as the result of abortion. Also, it will strengthen the contractile pains. It has enabled me to do cleaner work, without interference with the uterine cavity, than I was able to accomplish previously with my hands or with the aid of instruments. It saves the blood and the strength of the woman, and, by obviating the necessity for frequent examination, reduces the danger of sepsis.

Personally I see nothing but good in the judicious use of pituitrin in early cases, although I disagree with many other physicians upon these points. It has saved me time,

and, what was of more importance, preserved my patients' strength, and doubtless saved some lives.

As to the active principles, they give me better service every day I practice.

J. S. CARRIGER.

Chelsea, Okla.

A NEW WAY TO KNOW WHEN WOMEN WILL BE MOTHERS

There is in the blood of pregnant women a ferment which causes a splitting up of the albumin of the tissue of the afterbirth. This ferment is absent from the blood of women who are not pregnant. The presence of this enzyme is demonstrated either by the dialyzation or by the optical method. These methods are technical and need not be described.

The discoverer, Professor Abderhalden, has found that the reaction is positive in every case of pregnancy, and always negative in nonpregnant women. His findings have been confirmed by such eminent physicians as Schwarz, Veit, Frank, Heimann, Franz, Jarisch, Henkel, Lindig, and Petri.

The reaction is positive from the middle of the second month of pregnancy on. It disappears from ten to fifteen days after a miscarriage or the birth of a child, and irrespective of the fact of nursing or not nursing the baby.

The reaction is due to the entrance into the maternal blood of substances derived from the child. A positive reaction with the biological test for pregnancy, therefore, means that the person from whom the serum was obtained either harbors afterbirth elements in the body or else has harbored such elements up to a short period ago, which period does not exceed two weeks; it means that she is or recently has been pregnant.

This test will prove most valuable in determining pregnancy in the case of the nursing or nonnursing mother who has not menstruated since her baby was born but whose uterus is enlarged, and also in the case of the girl or woman who has no right to be pregnant and whose trouble may be due to causes other than pregnancy; so, also, in the differentiation of new formations otherwise indistinguishable from the enlargement of pregnancy. Furthermore, it will have a place in medicolegal cases.

L. K. HIRSCHBERG.

Baltimore, Md.

[We wish particularly to commend the test referred to by Doctor Hirschberg. We have

used the Abderhalden test for pregnancy repeatedly and found it exceedingly reliable. It is often important to know *early* whether a woman is pregnant or not. This simple test makes it possible to determine this fact with reasonable accuracy. A similar test (also devised by Abderhalden) is used for diagnosing doubtful cases of cancer. We shall be glad to hear from any doctor interested in the matter.—ED.]

INTERNAL MEDICINE NEEDED

Your editorial on the American College of Surgeons has been read and fully approved. The country needs, today, A I general practitioners more capable of performing ordinary operations, men with a knowledge of drugs, and, of course, of disease. An organization of internal-medicine men into a society may be needed to prevent competent surgeons from "legalized slaughter" of patients with such diseases as typhoid fever, pneumonia, acute enteritis in children, for instance, which, due to their lack of knowledge of drugs, they are unable to abort or mitigate.

If surgeons and some others knew drugs, we should hear less of crisis in pneumonia; of typhoid coma and deaths from cholera morbus and of the terrible hospital mortality of these diseases. Speed the day when drugs will be thoroughly taught. Personally, during seven years just past, I have had no typhoid coma, no resolution of pneumonia by crisis, and no deaths from enteric diseases in children. And this in an extensive country practice.

ARTHUR H. BEEBE.

Stillman Valley, Ill.

HOW THE DOCTOR CAN PROMOTE HIS OWN INTERESTS

In an editorial in the November, 1913, number of *The Medical Council*, (p. 435) the editor of that excellent journal outlines some of the things physicians of any community can do to protect themselves against quackery, "ethical" and unethical, and increase their own standing as well as that of the profession. We quote a portion of this fine editorial herewith:

"No, doctor, it is not the advance of modern medicine, it is not the efforts of the great rank and file of physicians organized into medical societies, it is not your state board of health that is restraining you in your business outlook; it is very largely *the men in your own community* or it is *you yourself*.

"Have you a hospital in your town, organized by prominent laymen, but in which a little ring of doctors have combined to keep business from *you*? Don't blame the hospital for that; get after the medical ring for practicing in restraint of trade.

"Have you two or three aristocratic and ethics-talking quacks in your town, men who seldom earn an honest dollar, but systematically lie to their patients and 'farm' their practice, keeping people in line because of 'pull' and because the alleged doctor is so popular?

"Have you an oleaginous old druggist or two, holding bank-stock and identified with a lot of good things as a blind to the public to which they are selling every modern abomination in the line of 'dope' and at the same time undermining you at every possible opportunity? Don't denounce these men in public; get evidence and turn it over to the district attorney if they break the civil law, or to their professional societies, if they are unethical.

"Have you a couple of professional abortionists, who have so intrenched themselves that they always have evidence suppressed when they get in trouble? Lay a legal trap for them.

"Have you a 'Medical Institute' in your town, infested with a couple of unconscionable quacks? Look up their records and find if they are registered. Have you newspapers accepting all kinds of medical advertising? Has your local medical society gone to sleep or a little ring therein organized a little-tin-pulled-by-a-string trust? Is it customary for your better-class druggists to dispense their own prescriptions? Is your town rum-cursed by a lot of 'hell holes' with licenses, but disobeying the law in every possible way and wasting the money of the community?

"Have you a lot of fad societies preaching into the women how wicked drugs are and how good the fad is? If you have any or all of these things—and the chances are you have all of them, and more—what are you doing about it? What is your medical society doing? Even if you and they have not the nerve to do anything, just make a survey of your town from the medical standpoint, looking for things in restraint of *your* trade. If you have never done so, you will find so much right at home to interest you that the 'medical octopus' at large will be forgotten in the sight of more tangible things at home.

"And you yourself, doctor; what are *you* doing in restraint of *your own* trade? We leave that matter wholly to you. But you

know how easy it is for you to see how Henry, the tailor, is getting old-fogyish; you have noted the rundown condition of the Has-Been Confectionery and the big trade going to the Up-and-Doing Store. Perhaps you have been to Dr. Plodder's office and were struck with the fact that he had no new-looking instruments and books and *no medical journals were on his table*. Perhaps it won't hurt to count up how much *you* have spent upon instruments, books and journals during the last five years. Of course, it was more than Dr. Plodder spent; but, then—

"What's the use? This question, like most others that afflict the tormented soul of the doctor, begins right at home. If it were resident only in Chicago or Philadelphia, the profession at large would have swatted the life out of it long ago. But to do anything to hurt 'our own' institution right at home, Buncombe Medical College, never! 'Oh, well,' you say, 'you see the Coke-Dope Drug Syndicate employs several worthy townsmen of mine. What can I do about it?' And again we say: 'What's the use? Charity begins at home.' So does *the trust* that acts in restraint of *your* trade."

GUATEMALA, THE METROPOLIS OF CENTRAL AMERICA

Guatemala has been the "prize plum" for most journalists in touring Central America. Much has been written about it for the American press, but very much has still been left unsaid of facts interesting to American readers.

My good wife and I have been here at Guatemala City now for two months and what were novel sights to us at first are now commonplace scenes. I promised you to write especially of the public institutions of this city, but there are so many interesting things here that I fear my space will be used before I shall have told it all.

This city, the capital, has a population of 100,000, and is situated at an altitude of 5000 feet. It is built in the old Spanish style, with one-story houses, "patios," high adobe walls, and all the other features. The country is very volcanic and broken. We feel earthquakes nearly every day, but they are of short duration; in the wet season these quakes are more numerous and severe. However, this is the dry season on the west side of the mountains. The climate here is ideal, although the temperature ranges from 55° to 65° F. and we wear medium-weight woolen clothes—and need them; sometimes even

using light overcoats. The soil is very fertile, producing to perfection anything planted in it, flowers especially. Of orchids alone there are native here more than 400 varieties.

This city would become a popular winter resort for the people of the United States if they were but acquainted with the conditions here. Transportation from New Orleans is only \$40, while living is reasonable, say, \$5 to \$10 per week. The republic is full of many hot springs of high temperature. Some six leagues north of here are the hot sulphur springs of Los Acoles. The river Agua Caliente (meaning hot-water river) is formed from hundreds of such hot springs, many of which come to the surface at nearly the boiling-point. Especially hot is the spring of *Infiernillo* (Little Hell), in which the natives cook eggs and fruits quickly, thus avoiding the trouble of making a fire.

This country could be made a bathing- and health-resort of unrivaled advantages, under the auspices of some enterprising "Yankee." Of all the hot springs surrounding this city, the Zapote is the only one in which scarcely any lime and sulphur are present. Its temperature is 27° C. (80° F.). In order to discuss fully the hot springs of Guatemala, it would take a volume as large as the new testament; I do want to say, though, that I am told, on good authority, that the spring near *Estanzuela* contains iodine, which is quite probable.

A great deal of poverty and disease prevails in the city of Guatemala and the same is true of the entire country; but these can not be charged to the country or the climate. What arrests the attention of the new-comer most is the vast numbers of cripples and beggars, and the prevalence of blindness and other eye troubles, as also of goiter and hookworm-disease. At first I thought the presence of goiter was due to the constant practice of the women of carrying vast burdens on their heads, but soon I noticed many cases in the men as well. The local medical fraternity have failed to throw any light on the subject.

There is comparatively little tuberculosis here; but, due to moral conditions, the city is pretty well loaded down with syphilis and gonorrhea. This fact will, in a measure, account for some of the blindness and eye troubles. If the general public here were better off financially, a great business could be built up by harnessing up one of these hot springs and thus aid in curing a few thousand well-nigh hopeless sufferers. A first-class American oculist could make good here, I am

convinced; also a man who would specialize on syphilis and gonorrhea.

The president, Estrada Cabrera, has done great work, during his fourteen years of official service, for the betterment of the capital city and the country at large. The General Hospital, built under his auspices, is a great institution, and it is nearly always filled with patients. It happily furnishes an abundance of clinical material for the medical school, located nearby.

Through the kindness of Dr. Julio Bianchi, I saw him perform an operation for the removal of the prostate gland. He went through the abdomen to reach the gland, and the result was very satisfactory. I may add that this is one of the best-regulated institutions of its kind in this country. The military hospital has six wards, three each for sick and for surgical patients. The personnel consists of one physician, six practitioners, one nonresident doctor, and sixteen ward attendants. There are two operating-rooms, the septic and the nonseptic. The decorations and floral displays are perfect, as are also the parked avenue upon which the building stands.

Then comes the maternity hospital; but to this institution there is a sad side. There are a great number of illegal births in Guatemala. The girls of the lower class rarely reach the age of 16 years without becoming mothers, and very frequently this happens when they are but 11 to 13 years of age. The maternity hospital became a necessity on account of this very fact. Many of these children (I will so call them) about to become mothers have no money and no place in which to be confined; and without the needed attentions and help of a physician the scene very often was closed by horrible death. This is the greatest benediction I could say for the present administration, praising it for having established this hospital, and, with it, a school for midwives.

Besides those named, there are several small private hospitals, among which I will mention the school and hospital located on the north extension of Seventh Avenue, which is being financed with American money, namely, by the Woman's Board of the Northwest, of the Presbyterian Church of Chicago. The general superintendent is Dr. Mary Gregg while Miss York, also of Chicago, is in charge of the nursing. The latter has three native students under her. The hospital has room for 12 patients, but it contained only two when I was there. For some reason, the institution seems not to be at its best. The

nurse-school has 18 pupils and 3 teachers. The charges are \$10 gold per month, including board. It is a very convenient place for rich people to send their daughters to learn the English language and that at a great saving in cost. The school and hospital do very little charity work, which in a way accounts for the small attendance. The people here who need uplifting cannot earn \$10 gold per month, and even if they could do so they would not pay out this money for educating their children.

One of the worst conditions here is the general use of "aguardiente," meaning, in Spanish, "jag-water." It is native rum made of sugar-cane. The price at the distillery is about 50 cents gold per gallon. The small barrooms* (250 in this city) sell a good-sized drink for 2 reals. One peso (silver dollar) being equal in value to 8 reals, the drinks cost about 5 cents gold. The fact remains that 5 cents gold is about all you need here to go off on a jag if you use "jag-water." There are 14 distilleries in this city alone, besides many more at other places.

A noticeable thing is the remarkable growth of the celery-plant here. The soil and the climate are far better than in Colorado, and you can raise celery the year around, while the flavor is richer in character and the stalks are very tender. It is not cultivated to a great extent, as the natives have not learned to eat it. The dearest article of food here is butter, costing 50 cents gold per pound. Vegetables and fruits are so cheap it is not worth one's time to raise them.

T. H. HANDLEE.

Guatemala City, Guatemala, C. A.

EMETINE TREATMENT OF DYSENTERY IN SIAM

I have had an opportunity to try emetine hydrochloride in the treatment of four cases of amebic dysentery. This drug certainly does act well, for in every instance my patient was cured, and cured promptly. Here is my first case:

One evening two Indian men came to my house and asked me to give them medicine for dysentery, for a patient who had been ill for three days. I handed them a supply of epsom salt and directed them to bring the man to the hospital if there was no improvement after two days, and on the third day they came with the sick man.

After studying the patient and observing his symptoms for about two hours, I gave him 1-4 grain of emetine hydrochloride at 10 a. m. At 5 p. m. I gave him another similar dose; both hypodermically. The next morning the stools had changed in character, and after the third injection blood and mucus disappeared altogether. After five days' treatment the man left the hospital apparently cured.

E. WACHTER.

Nakon Sri Tamarat, Siam.

THE DOCTOR'S HORSE—AN INQUIRY

One of the readers of CLINICAL MEDICINE has enjoyed Doctor Baker's little paper on "The Care of the Doctor's Horse" (see page 84 of the January issue) and writes to inquire how to use the spirit of nitrous ether in the treatment of spasm of the bladder and urethra in his driving-animal. As Doctor Baker is a long way from Ravenswood, we have referred this inquiry to our friend, Dr. N. S. Mayo, who gives the following advice regarding the use of that remedy:

"Spirit of nitrous ether is best administered in a drench of about a pint of moderately hot water. It can be repeated in an hour, if it is necessary. These cases of spasm of the muscles of the neck of the bladder very frequently occur in horses that have had long hard drives, and then this hot diffusible stimulant seems to give relief.

"A horse so attacked should be placed in comfortable quarters, lightly blanketed, and then be given a vigorous rubbing—particularly of the legs—with wisps of straw. This seems to rest the horse greatly and to tone up the exhausted nervous system. The horse should be very sparingly fed until he has rested. It is best to give first merely a small amount of hay, and later to water him, then follow with his regular feed, perhaps in slightly less amount.

"It is a mistaken kindness to give a horse an extra-big feed either after or before a long, hard drive, as the digestive system is not in proper condition to handle an unusual amount of food."

Should any reader of CLINICAL MEDICINE have questions concerning the horse, if he will write us we shall see to it that his inquiries are attended to by a competent veterinarian. Of course the doctor should always be on good terms with his veterinarian neighbors; but when, as so often is the case, there is no veterinarian handy, he has to do the best he

*Barrooms are conducted almost entirely by women and children

can. It is for men so situated that we make this offer.

Among the readers of *CLINICAL MEDICINE* there are quite a number of veterinarians. Some of them write for us occasionally, and we shall be glad to hear from them and others on topics of interest to medical men. The veterinary profession is making great progress.

SIGN OF DEATH AFTER DROWNING: NOTE THE PUPILS

In reading "Vacation Accidents" in *THE CLINIC* for August, 1913, page 637, the query, "How do you know he is really drowned—dead?" brought up in me the answer, "When both pupils are fully dilated."

It has been my practice, in a large number of cases of approaching death from a wide variety of causes, to observe the pupil carefully; and I have come to regard the fairly sudden relaxation of the iris as the very best evidence and proof of death. The appearance of this phenomenon, in my experience, does not take place before death. There may be dilatation of the pupil, but not to the extent which occurs with the flight of the vital spark.

The only practical application of this knowledge that occurs to me would be the certain diagnosis of death in cases of suspended animation, as in submersion or asphyxiation. Where this sign is present, I should have no hope of resuscitating the person; and conversely. I do not recall in my reading of medicolegal cases any mention of this sign.

S. AUSTIN DAVIS.

Brooklyn, N. Y.

[Doctor Davis is surgeon on a large sea-going ship, and has had peculiar opportunities to study this subject.—Ed.]

IS IT LEPROSY—OR YAWS?

In the January number of *CLINICAL MEDICINE*, page 90, under the title of "Is It Leprosy?" is shown the picture of a woman suffering from a disease of the skin, that affects the face, hands and arms, the appearance of which is suggestive of leprosy. We asked for further information concerning this case, which was reported by Dr. I. N. Campbell, of Sabinol, Texas; we also asked for comments from our readers.

Thus far we have heard nothing from Doctor Campbell, so, we can present no addi-

tional facts. However, one of our contributors has suggested the possibility of a prominent type of eczema, saying he had seen cases having much the same appearance. Dr. Lawrence T. Newhall, of Brookfield, Mass., makes the suggestion that the disease may be yaws, and he writes that he has three photographs of yaws taken in Jamaica, W. I., and these are very similar in appearance. He adds that the iodides are employed there against this trouble.

This case, we repeat, is interesting and we shall be glad to give any further information within our power concerning it.

EUGENICS AND ALCOHOL

Among the many instructive articles in your November number, the one by Doctor Young, of Covington, Louisiana, is almost exhaustive in its description and treatment of neurasthenia. We all recognize, of course, the value of "a sound mind in a sound body." Probably the best way to attain this is that of Doctor Holmes's, that is, for the child to pick its ancestry a hundred years or more before it is born. If laws (as now are in force in several states) prohibiting the marriage of diseased persons were general and would be faithfully carried out, the neurotic would soon disappear and there would be a survival of the fittest.

These defectives are the product usually of a tuberculous, luetic or alcoholic ancestry. Banish alcohol absolutely in all its forms, and our prisons and insane asylums will be empty, as is the case in most counties in Kansas. Prohibition will prohibit if it has a strong public sentiment back of it, and will eliminate many of the excrescences—the resort of alcoholics—that are the bane of any community. Not alone the physical status, but also the mental and moral, will be changed to its best standard in any given individual. The results predicted are not the product of fancy or of Utopian dreams, but are proven in a vigorous life to old age. Add the necessary sanitary precautions to any given environment, and you have gratifying individual as well as community betterment.

There is no truer maxim than that "the nation's health is the nation's wealth." A long life of active practice of fifty-seven years, first in country town and for the last thirty years in city practice, gives me the broader vision to interpret conditions arising from given promises.

C. H. SHOTT

Birmingham, Ala.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

STILL retaining in our subconscious minds the barbaric belief that there is some peculiar virtue in self-inflicted punishment, men actually wallop themselves with their work and thoughts of work. The majority of us do not rise above the humdrum and the mediocre. Few of us win records of more than ordinary accomplishment. And, yet, we fret, and fume, and talk, and complain about how pressed we are! Unless we have big results to show for it, all this sputter about being overworked is an acknowledgement of our inefficiency. We frankly declare that we have to keep our low-grade physical and mental machine at its highest speed to grind out even an ordinary living, when such a result should be accomplished easily on low gear.

And, yet, with one of those contortions and somersaults of which the average human mind is always capable, we regard this high-tension living, this straining and sputter and broil as something not to be ashamed of, but actually to brag about and be proud of.

Every sane man has come to recognize that a vacation is a good investment; that a period of rest will pay big dividends, not only in the pleasure of living, but in work accomplished; that the only legitimate excuse for not resting must be one's financial inability to do so. And, yet, the average professional or business man will tell you with some show of pride that he has not had a vacation for five years, that he takes but ten minutes for his luncheon, and that he frequently spends his evenings stewing and sweating in his office.

On first blush, we are disposed to blame this deplorable condition—this universal overwork—to the high cost of living, to the tariff, to the trusts, to the invasion of the business world by women, and to foreign cheap labor. And then, in a mood of rather caustic optimism, we wonder whether the psalmist was right when, in his haste, he said, "All men are liars."

But it is not our work that strains us, pushes us, shoves us, and prevents our rest.

It is, as a rule, our splutter and pother about our work; our morbid delusion that we are frightfully busy. We are so busy thinking about how busy we are that we have no time for saner diversions and, often, very little time for actual work. With some neurotic persons, this sense of excessive business pressure is an actual delusion. With many others, it may be classified under a "shorter and uglier" term. Beginning with what the lad of the streets would describe as "bunk" or "fourflush," it finally becomes a pernicious habit, in which, frothing at the mouth, we run round and round in a circle, barking loudly and snapping at our own tail.

There is a fertile field for the neurologist, who dotes on vague terms and voluminous classifications, to be found in what, for want of a better term, we are disposed to call "work madness."

We like to feel that in this mad careering we are operating the treadmill that keeps the universe whirling around; and, yet, after our final flutter and sputter, after the day of pall-bearers, cotton gloves and tuberoses, this will still be a busy and productive little world whirling merrily on as usual.

The day will come when the admission that one has gone vacationless for years will be regarded as *prima facie* evidence of failure to make good or of weed-choked mentality. The day will come when man will cease to brag about how he must struggle to attain the commonplace; when he will endeavor to give the impression that he can fill an average man's place in life without breaking out his cylinderhead in the effort. That day will come when intelligence is universal and a sense of humor pandemic.

Thoreau never spoke more truly than when he said: "Let not to get a living be thy trade, but thy sport." The thing is, how to do that. Many I have known advise young men to take up with any business but theirs, the advisers'. They abhor it. No matter what it may be, it is cursed—all hard work,

little money, anxiety, disappointments, grovelings, bound to be a failure at last except for a few favored ones who are lucky or too dishonest to fail.

A man told me that, as a youth, he was in the lumber business, which by its trials nearly had finished him in ten years. Then he became a coal-dealer. Five years of this would certainly have ended him, only just before that time expired he shifted to real estate; which, however, was worse than the other two, worse than anything else could be. He supposed he would have to stay in it now, because he was too old to take up with any new vocation. I asked him what he thought he should like. Well, banking, he said, or brokerage. These always paid, the hours were short, the work genteel and easy, and a banker or broker was thought highly of.

Since that time I have known personally a number of bankers and brokers, and I do not find all of them more satisfied with their occupations than this man was with his. One of them wished to be a painter, but never had the opportunity. Another wanted to make things with his hands, to be a creator, to build ships or railroads or even cabinets and other furniture, but somehow it had never come around that way for him. Still another had just drifted into a bank as a boy and staid there, that was all. He would rather be almost anywhere else.

I suppose it is so with all of us who make the getting of a living our trade and not our sport, for it is our own selfishness, our fear and greed and meanness that afflicts us, not our business. With Thoreau's principle, a man can follow any occupation under the sun he likes and find joy in it, and a living; without it, he must go every gait but the one he would. Happy is he whose work is his recreation.

We are continually misunderstanding one another's plainest spoken words.

Once in a lecture on "Cause" I referred to Herbert Spencer's views of my subject. I said I would not quote his words, that would require too much time, but should state his principle simply, in my own way; which was as follows:

"A man dies. What is the cause of his death? Cancer. Yes, but what caused the cancer? Eating tomatoes. But all people do not eat tomatoes, what caused him to do so? He liked them. But everybody does not like them, what caused him to like them?

His constitution. What caused his constitution? His ancestors. What caused his ancestors? Well, protoplasm. What caused protoplasm? The sun. What caused the sun? *We do not know.* The cause of the man's death, then, we do not know, according to Spencer; and we ascribe it to cancer, because cancer happens to be the nearest link in the chain of events which bound him to the real cause, which we do *not* know. This is the agnostic attitude. We do not know cause."

I did not at the time think it necessary to explain more carefully that I had done that the illustration was a supposititious case, not a real one, having philosophy, and not medicine, for its aim. That was seven years ago. The other day a woman insisted, with as much politeness as good breeding would allow, that at that lecture she had heard me declare that eating tomatoes would cause cancer, that I had cited Herbert Spencer's philosophy in proof of it, and had even told of a man who contracted cancer by eating tomatoes!

If our friends who really wish to understand come no nearer than this to it, maybe we can afford to give the benefit of the doubt to our enemies who appear maliciously to misunderstand us.

If a man is in business, he doubtless is more warranted in calling attention to the excellence of his wares than he would be if, being a society man, he should extol his breeding; or, if a physician, advertise the superiority of his cures. From one point of view, self-exaltation may be taken as a bully joke; and I doubt whether most business men who have succeeded largely have not, in their self-aggrandizement, felt some of the humor of the thing. Otherwise they would hardly have the assurance to carry it out. Or, at first they must have felt it. Custom might change them, and probably does, so that the humor is lost sight of after a while and only the struggle for existence remains.

What a picture it becomes then! One would think a man would rather starve to death like a gentleman or live like one on a dollar a week. It reminds you of the ragged, illiterate scarecrow of a rimester, O'Kelley, who, when Walter Scott was traveling in Ireland, approached him with the following, and for which he received what his delicate compliment called for—a small piece of money:

"Three poets of three different nations born
The United Kingdom in this age adorn:
Byron of England, Scott of Scotia's blood,
And Erin's pride—O'Kelley, great and good."

Some of us are so anxiously charitable that at times we neglect the cultivation of our own affairs in order to inquire into the needs of our neighbors. I know one woman who was so desirous of doing good that she gave a loaf of cake (burned a little on the bottom) to a poor mother of a family who, she was sure, by shrewd observation, hungered for a thing of that sort. The poor mother of a family told me that she never had eaten anything so cheap as that cake, and didn't propose to begin then; and before my eyes put it in the swill-barrel.

Once a man came to me for a subscription to buy dannels for a boy who seemed to him to be in urgent want of them, and lo and behold, it turned out that the boy had three suits of better underclothing than I could afford to wear.

Let us be charitable, by all means, for charity is sweet and high and twice blessed. But we need not be too anxious. God is not dead yet, and knows what his children must have. It requires wisdom to exercise charity without "peeping and botanizing," to be helpful without smallness. Some of us do not give with high motive. We have our reasons.

Poor little Miss Charity Bowers
Was fearfully bothered by showers.
"If they'd only hold off,"
She declared with a cough,
"Until I have watered my flowers."

Jaundice shows that there is more or less cholemia, and that destruction of the red blood-corpuscles is going on. Iron should be given for the same reasons as in Bright's disease, provided there is no fever.

From 5 to 10 drops of oil of wintergreen or oil of peppermint added to a quart of warm water and used as an enema for washing out the lower bowel after every movement often will completely cure diarrhea and chronic dysentery where the disease is near its end.

A paste made of oat-meal, moistened with glycerin (or olive-oil) 3 parts, and oil of peppermint, 1 part, makes an excellent application for burns.

In the distressing inflammation of the mouth and throat accompanying phthisis, either powdered sodium sulphite or a gargle composed of sodium sulphite, 1 dram, and peppermint water, 1 ounce, will be found a useful application.

Codliver-oil may be beneficially administered in the treatment of skin diseases of a scaly nature, such as eczema, where these are not dependent upon toxemia.

In pneumonia, occurring in alcoholic sub-

jects, when the temperature is low, with a debilitated heart, the tincture of chloride of iron should be given, with digitalin.

Various forms of neuralgias, and especially those of the intermittent type and associated with anemia, are greatly benefited by the arsenates of iron, quinine and strychnine.

In nocturnal syphilitic hemicrania, 1-30 of a grain of calomel every fifteen minutes often gives relief when potassium iodide has failed.

In epilepsy, with twitching of the face and extremities during sleep, which indicates a cranial cause, that is, chronic meningitis, the ointment of the red iodide of mercury should be rubbed into the skull and nape of the neck.

In chronic asthma and bronchitis, and in the form of spasmodic asthma which alternates with skin disease, or which, occurring in an adult, takes the place, as it were, of what would have been strumous complaints during childhood, iodized calcium is very useful. Arsenic also is useful. These are the two best remedies for these conditions.

Dysmenorrhea attended with headache and other disturbances often is relieved by caulophyllin and the bromides or by monobromated camphor and acetanilid, and by placing the feet in hot water.

Arsenic in small doses (gr. 1-60 or less) is very useful in irritative conditions of the stomach when there is vomiting owing to gastritis of a chronic kind, as of drunkards, or vomiting caused by any obstinate condition except a cerebral one.

Sodium salicylate is preeminently useful in acute articular rheumatism, tonsillitis, and chronic constipation, associated with imperfect secretion of bile.

Globus hystericus often is markedly relieved by belladonna or its alkaloid, atropine. In all cases of dyspepsia, nervous, irregular action of the heart, palpitation, or severe stomach-ache, it may be assumed that, whatever be given, it should contain belladonna.

In headache associated with coldness of the surface of the body, pale face, small, and sometimes incompressible pulse, nitroglycerin often does good.

Ergotin is a great adjuvant to quinine in brow-ague, that is, true periodic headaches attended with photophobia.

Small doses of strychnine are indicated in conditions of vasomotor weakness, where persons blush without any reason whatever, as in the case of women, and particularly at the time of the menopause.

Among the Books

FISCHER: "CARE OF THE BABY"

The Health-Care of the Baby. A Handbook for Mothers and Nurses. By Louis Fischer, M. D. Fourth edition, revised. New York and London: The Funk and Wagnalls Company. 1913. Price, 75 cents.

The woods are full of manuals of instruction for the care of the child in health and disease. There is hardly a teacher of pediatrics of any note who has not, at some time or other, written a handbook for mothers and nurses on this subject. Doctor Fischer's is one of the oldest of those belonging to the distinctively modern school, and through its successive editions it has kept pace with the progress of pediatric science. It is clearly and even entertainingly written, and contains, besides the scientific information one looks for from a specialist, a lot of hard common sense on the rearing of children that will not come amiss to the average parent. The physician will make no mistake in introducing this little book into the homes of his patrons.

MORSE: "PEDIATRICS"

Case-Histories in Pediatrics. By John Lovett Morse, A. M., M. D., associate professor of pediatrics, Harvard Medical School. Second edition. Boston: W. M. Leonard, 1913. Price, \$3.00.

This book belongs in a series of case-history volumes issuing from the press of this same publisher and proceeding from the pens of the teachers of the various subjects in Harvard Medical School. Thus far there have appeared four of them, namely, upon Medicine, Pediatrics, Surgery, and Neurology; and we hope that there will be many more of the same kind, and also that other authorities and publishers will follow out the idea, for it is a most excellent form of disseminating medical and surgical knowledge. It comes nearest to genuine bedside instruction of anything we have yet seen in medical literature.

Case-teaching was introduced into Harvard Medical School, in 1900, at the suggestion of W. B. Cannon, who was then a student in the

school; and it has proven far more effective than recitations, quizzes, and conferences, one of its greatest advantages being that it compels the student to think for himself along practical, clinical lines. There is no reason why the same method should not prove just as effective and thought-compelling when applied to the writing of books for the general practitioner; and the fact is, it has already justified itself in this series of books put out by the Leonard press.

If we were recommending a group of "best books" for the physician, we should assuredly include this Case-Histories series among them; and the one in Pediatrics is no whit behind the others of its set in either quantity or quality. Every doctor should immediately possess himself of a copy and study it earnestly.

"THE PRESCRIBER"

Many of our readers are interested in what is going on in therapeutics, and to those who wish to keep in touch with the new remedies and other applications we can recommend *The Prescriber*, which is published at 137 George Street, Edinburg, Scotland. The subscription price of this journal is ten shillings (\$2.50). It may be procured from Mr. Paul B. Hoeber, 69 E. 59th Street, New York, N. Y.

GUENTHER: "PHYSIOLOGY"

Physiology. A Manual for Students and Practitioners. By A. E. Guenther, Ph. D.; and Theodore C. Guenther, M. D., of the University of Nebraska. Second edition, thoroughly revised. Philadelphia and London: Lea & Febiger. 1913. Price, \$1.00.

This is one of Lea & Febiger's "Medical Epitome" series. The authors declare in their preface that their aim has been "to gather within a brief compass those facts of physiology which medical students ought to be familiar with in order that they may successfully pursue the more advanced courses of a medical curriculum." This is the customary modest *apologia* of those who write

books of this type. The real truth is, however, that these little books usually contain the gist of the subject, to which the student comes back after he has wandered all around the wilderness of superfluous matter in the larger textbooks; and there is no reason why the authors should not boldly say so. We are teaching certain subjects, such as physiology, altogether too exhaustively these days, and it is well to have epitomes of this kind to keep a check upon ourselves.

ARCHINARD: "MICROSCOPY AND BACTERIOLOGY"

Microscopy, Bacteriology, and Human Parasitology. A Manual for Students and Practitioners. By P. E. Archinard, A. M., M. D. Second edition, revised and enlarged. With 100 engravings and 6 plates. Philadelphia and New York: Lea & Febiger. 1913. Price, \$1.00.

This is another of the "Medical Epitome" series. The subject of microscopy and bacteriology, of course, needs no apology for being epitomized; for, it is one of the few subjects in medical science that not only lends itself to this kind of treatment, but actually gains by it. The general practitioner does not need an exhaustive knowledge of bacteriology; indeed, it is a question whether such a knowledge would not be more of a burden than an advantage to him. All he requires is a summary of the practical aspects, and he gets it, in quite adequate form, in a little work of the kind under review. The present edition brings the subject-matter well up to twentieth-century standards.

"MURPHY'S SURGICAL CLINICS"

The Surgical Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Vol. II, No. 2. Philadelphia and London: The W. B. Saunders Company. 1913. Price, per year: paper, \$8.00; cloth, \$12.00.

This series of clinical reports can no longer be regarded as an experiment in medical literature. It has won its spurs and established its position. Which is not to be wondered at; for it was a departure that hardly could help but appeal at once to the medical man, because it represents extremely practical clinical teaching. These are not student-clinics, but Murphy's famous clinical talks, at Mercy Hospital, for physicians only, and published just as they are delivered by him, being reported verbatim by an expert medical stenographer. In this way these

talks retain all that individual force and charm so characteristic of the clinical teaching of this distinguished surgeon. These "Clinics" are being issued in serial form—one number every alternate month, six in a year—and are sold by the year only.

SHARP: "OPHTHALMOLOGY FOR VETERINARIANS"

Ophthalmology for Veterinarians. By Walter N. Sharp, M. D., professor of ophthalmology in the Indiana Veterinary College. Philadelphia: The W. B. Saunders Company. Price, \$2.00.

While, naturally, the field of ophthalmology in veterinary practice is much more limited than as applied to humanity, there has been great need of a textbook for veterinary use. In this book, the author follows human practice very closely. It is clearly written and well illustrated, and should find a place in the library of every progressive veterinarian.

BALL: "OPHTHALMOLOGY"

Modern Ophthalmology. By James Moores Ball, M. D., LL. D., professor of ophthalmology, American Medical College, St. Louis. Third edition, revised and enlarged. With 445 illustrations and 24 colored plates. Philadelphia: F. A. Davis & Co. 1913. Price \$7.50.

"Doubtless," said good old Doctor Boteler, "God could have made a more delicious berry than the strawberry, but doubtless He never did." Doubtless there is no man in this country so adequately fitted, by temperament, by knowledge of the subject, by literary culture, and by wealth of first-hand data in his immediate possession, to write a complete treatise on ophthalmology, in all and every one of its phases, as James Moores Ball. And doubtless nobody in this country every has written so worthy a treatise on the subject.

Doctor Ball's book is not a textbook nor a manual nor a monograph, nor even a "system" of ophthalmology. It rises high above all of these in its character and range. It is a scholarly, masterly, well-rounded treatise; as thorough and comprehensive and painstaking in its subject-matter as one might expect of a scientific treatise prepared for the archives of the Royal Society; as finished in literary style as though literary style had been its sole aim and motive; as beautifully proportioned as a piece of Gothic architecture.

It is no exaggeration whatever to say that the book is a classic. Among all that have arisen among works on the eye, there is none greater than Ball's "Modern Ophthalmology."

It must not be supposed that this work has no practical, clinical value. If, in our enthusiasm for the larger, more academic qualities of the work, we have unwittingly discounted these practical, clinical features, we have done the book a grave injustice. We have said that it is a classic; but it is not therefore an archive—not yet. It may, and undoubtedly will, eventually become an archive. But for the present it is exceedingly alive and current. It is so much the more of a practical treasure for being a classic. Its classicity extends to its utilitarian features. Its clinical features are classical, too.

Here there is presented the *best* that the world affords in diagnostics and treatment, garnered with the breadth and thoroughness and rare discrimination which characterize every phase of the work, from every worthy source that is available to human research. It is, by all odds, the high-water mark in American ophthalmological literature; the best single treatise upon the subject that this country has produced. The third edition represents practically an entire re-writing of the whole book.

WEGELE: "THERAPEUTICS OF THE GASTROINTESTINAL TRACT"

Therapeutics of the Gastrointestinal Tract. By Dr. Carl Wegele. Edited by Maurice H. Gross, M. D., and I. W. Held, M. D., both of the Har Moriah Hospital, New York. New York: The Rebman Company. 1913. Price \$3.00.

This work is more in the nature of a monograph than of a textbook. Hence, one must not expect to find in it (and, in fact, one does not find in it) a complete or comprehensive presentation of the entire subject of gastroenterology. Rather, it contains a report of the experimental work and findings of the distinguished author himself in certain phases of gastrointestinal diagnosis and therapy. Nevertheless, its range is pretty wide, covering all the organs of the upper digestive tract, including the pancreas; and the author's investigations and observations seem to have ramified into almost every conceivable nook and cranny of the subject.

A special chapter is devoted to x-ray diagnosis of gastric and intestinal conditions; but we notice that the value of electric modes in

the treatment of these conditions is not very highly regarded by the author. This attitude may or may not agree with the views of the majority of physicians—especially American physicians—but, as we have said, the book is a monograph rather than a text book, and therefore the obtrusion of the author's personal opinions is not only allowable, but desirable. We are gratified to see that he gives such strong emphasis to the role of dietetics in gastrointestinal prophylaxis and therapy. The preparation of the book and its illustrations are in Rebman's best style.

MOORE: "BOVINE TUBERCULOSIS"

Bovine Tuberculosis, and Its Control. By Veronus A. Moore, B. S., M. D., V. M. D., professor of comparative pathology, bacteriology, and meat inspection, New York State Veterinary College at Cornell University. Ithaca, (N. Y.): Carpenter & Co. 1913. Price \$4.00.

This is a comprehensive and, yet, concise work upon the subject under treatment, and the recognized standing of the author as authority in the realm of comparative pathology makes this especially valuable as a reliable reference-book, and it will prove invaluable to anyone interested in this important subject. The volume is finely illustrated, while another excellent feature is its bibliography upon tuberculosis among cattle.

FORTNER AND LEWIS: "GENITOURINARY DIAGNOSIS AND TREATMENT"

Genitourinary Diagnosis and Therapy. For Urologists and General Practitioners. By Dr. Ernst Fortner, Berlin, and Bransford Lewis, M. D., St. Louis. With 43 illustrations. St. Louis: The C. V. Mosby Company. 1913. Price \$2.50.

In looking over a volume of this kind, one can not but be forcibly impressed with the vast difference between a book on genitourinary medicine and surgery in this present time and one on the same subject not longer than ten or twelve years ago. For one thing, the scope of the genitourinary specialist has greatly enlarged during the last decade. He is no longer the dabbler with gonorrhea and chancres that he used to be, but he now covers, in a broad fashion, the entire field of anatomy and physiology included in the urinary and genital functions. And, for another thing, our knowledge of these matters,

and our dealings with them, have developed from mere empirical pottering to a very thorough and exact science.

All of this wonderful change is well mirrored in the book before us. It is not very detailed in its makeup, it does not dwell upon matters of minor importance; rather, it is devoted entirely to the larger aspects of the subject, and in these it deals in an explicit manner that is calculated to expound the modern status of genitourinary surgery to the general practitioner. An appendix gives an excellent, comprehensive summary of the vaccine and serum treatment of gonococcal infections.

NATIONAL-INSURANCE PRESCRIPTIONS

Here is a little booklet, published by *The Prescriber* (137 George Street, Edinburgh, Scotland) which, for a sixpence, furnishes the doctor a collection of about one hundred useful prescriptions (grouped according to their uses), and which practitioners employ, under the National Insurance Act, to look after the health of their British constituents. Of course, to practice with cut and dried prescriptions is not very scientific and not always very satisfactory; but, really, many of the prescriptions included in this little book are excellent and might well be availed of not less by those standing high in the profession than by the most practical practitioners.

HUNTINGTON: THE "WALLED CITY"

The Walled City: A Story of the Criminal Insane. By Edward Huntington Williams, M. D., formerly assistant physician at the Matteawan Hospital for the Insane. New York: The Funk and Wagnalls Company. 1913. Price \$1.00.

In the preface to his romance "John Inglesant," the author, defending himself from the possible charge of dealing with serious matters through the frivolous medium of a novel, boldly declares that, if John Hilton had put his classical work on Pain in the form of a novel, instead of that of a treatise, for every one heart to which his book brought peace and hope there would have been a thousand. We thoroughly agree with Mr. Shorthouse, as we imagine every intelligent person of today will. And we are inclined to paraphrase his statement in regard to the book now before us.

Doctor Williams has told us an intensely interesting and romantic story of the Walled City—the very name has an imaginative

twang to it that suggests all manner of fantasy and extravaganza, and the story does not disappoint the expectation. The knowledge that it is a true story only heightens the romantic interest. One cannot help thinking, all the while he reads, What material for a realistic novel!

It is the best-written inside, intimate narrative of the modern insane asylum that we have yet seen; the best since Charles Reade showed us, in fiction, the interior of quite a different sort of madhouse. We hope it will be widely read, not only by doctors, but by the people at large. We should not at all be surprised to see some of our fiction writers borrowing its material. There is no use trying to review the book. All we can say is, Read it—by all means, read it.

CABLES: "DIAGNOSIS AND TREATMENT"

Golden Rules of Diagnosis and Treatment. By Henry A. Cables, B. S., M. D., Second edition, revised and rewritten. St. Louis: The C. V. Mosby Company. 1913. Price \$2.25.

This little book does not pretend to be an original work, but is an epitome of the literature on the subjects considered, supplemented by the author's own experience in private and hospital practice, compiled and presented in a manner that seems to him the best for the purpose in view, namely, a ready reference of diagnosis, treatment, and remedial procedure.

Chief importance is given to the clinical methods of diagnosis; but the laboratory is drawn upon as often and as extensively as the author deems necessary. And this would seem to be a wise division of the matter, for, in our modern teaching we are perhaps emphasizing the laboratory side of diagnosis a little too heavily, and, as the author rightly says in his preface, "a physician who attempts to make all diagnoses by the laboratory route will find the way fraught with tedium and uncertainty." The book should prove of assistance to the busy physician in obtaining needed information readily and authentically.

We note with special pleasure that Doctor Cables uses many of the remedies with which readers of this journal are familiar—including not only a considerable number of the active principles but also some of the other drugs which we have found so useful in typhoid fever, rheumatism, and other severe ailments of every-day occurrence.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answers to Queries

ANSWER TO QUERY 5930.—“Bust Developers, Flesh Builders, etc.” For the benefit of L. D. N., and others I will say that the use of a high-power incandescent therapeutic lamp, used either alone or, what would be better, in connection with a vibrator and suitable local remedies, will give the best results in developing the bust.

J. A. BURNETT.

Hartshorne, Okla.

ANSWER TO QUERY 5973.—“Onychosis.” To cure this trouble of the finger-nails, you can bank on fluoric acid 30 x dilution. Let the patient take it in 2-drop doses three times daily, continued for two weeks. Then discontinue the remedy for two weeks, after which it may be resumed. It is effective whether the patient is a child or an adult. The remedy is procurable at any homeopathic pharmacy.

A. C. SHUTE.

Pottstown, Pa.

ANSWER TO QUERY 5965.—“Gastric Ulcer or Carcinoma.” The subject referred to in this query in the January CLINIC opens up a very interesting question, and an important one as well. At times it is very difficult to solve the question as to whether we are up against simple gastric ulceration or one of carcinoma. In the case of the latter, the characteristic cancerous cachexia appearance of the patient is not always present. In cases which have come under my own observation, the “coffee grounds” ejected were more in evidence in gastric ulcer than with a carcinomatous condition of the stomach; in the latter condition, the cancerous growth generally was located at the pyloric end, or orifice, of the stomach and the hemorrhage much more profuse, passing by way of the anus in tarry shreds.

As for the treatment, in either case palliative remedies, principally lead and opium, have been the most satisfactory and effective in my practice. I recall one interesting case occurring in my early practice, that may possibly interest THE CLINIC “family.” The patient in question, whom I had known quite well from my boyhood, was a man of some seventy years; and one whom I knew to have been quite a hard consumer of ardent spirit throughout his life. I attended him during his last illness, which was of several months’ duration.

Some time before his death, his family expressed the wish to have an older physician—my former preceptor—called in consultation. After hearing the history of the case and examining the patient, this consulting doctor very bluntly declared in the hearing of the patient that it was a clear case of cancer of the stomach. But I dissented vigorously, and an animated controversy followed. However, this was soon terminated by the patient, who, raising his hand and commanding us to stop, asked whether his case was hopeless. Being assured by the old doctor that it was, he turned to me and said: “Doctor, when I die, you make a postmortem examination and settle the question then. I’ve heard enough of it!”

The patient died three days afterward, whereupon I invited the old doctor to be present at the necropsy. On laying open the stomach, several ulcerated patches were disclosed, and these the old doctor contended were cancerous, while I maintained that they were simple gastric ulcers resulting from a life of dissipation. The stomach was then subjected to an expert microscopical test for cancer-cells, but none were revealed. The doctor who made the microscopical examination reported that no cancer-cells were present and that it was a clear case of gastric

ulceration. Nevertheless that old doctor wouldn't give in even then; thus verifying the old adage that "a man convinced against his will is of the same opinion still."

GEORGE D. STANTON.

Stonington, Conn.

ANSWER TO QUERY 5958.—"Chronic Rheumatism and Arthritis Deformans." It is possible that C. O. R.'s patient (December p. 1056) has both chronic rheumatism and polyarticular arthritis deformans. Clinically, these two diseases are entirely distinct; and the rheumatism may be completely cured and the characteristic nodules entirely removed from the skin without affecting the arthritis deformans in the least. I once had such a case.

Passive hyperemia I consider of no value in either of these diseases; but possibly I have not tried out this measure sufficiently.

Active hyperemia, produced by means of dry, hot air at a temperature of 400° F., is of the highest value in acute rheumatism, of only little value in chronic rheumatism, and of no value at all in arthritis deformans; that is, unless it can be applied to the entire body, especially the spine. If the patient lies on his back while taking the treatment it is of no value. If, however, the spine gets the full benefit of the hot air it is of considerable value and may be expected to assist materially in the cure.

Osteopathic manipulation is of little or no value in acute articular rheumatism, of very great value in chronic rheumatism, especially the nodular form, and of no value in arthritis deformans. The most useful manipulations are petrissage of the affected parts and deep centripetal effleurage of the entire limb.

These two procedures alone will cure chronic rheumatism, if the cause no longer is active.

Arthritis deformans is essentially a systemic disease, and local and surgical remedies here are useless. The main dependence must be placed on drugs, and the only suggestions I can add to the editor's excellent treatment of this part of the subject are these: (1) Give the nuclein intravenously—in tablet form nuclein has given me no results. (2) Add arsenic trisulphide, or substitute it for other compounds of arsenic. However, large doses are required (three times a day). This is valuable, in the early part of the treatment, as a germicide, but has no other effect. To reduce enlarged joints, we must rely mainly upon iodine.

CHARLES F. MORRISON.

Apopka, Fla.

ANSWER TO QUERY 5961.—"Circumcision of Infants." The dressing left on the wound after circumcision is almost as important as the operation itself. The collodion dressing has immense advantages over everything else, especially for the patient and whoever takes care of him. With this, he has no pain and the child gives no more trouble than if no operation at all had been performed. Other wise, every urination irritates the wound, the patient screams with pain, and healing is delayed.

I used to place a small roll of gauze, just sufficient to cover the wound (after placing the sutures), and seal it all over with collodion: but if a clean operation is done there is no need for drainage. It is in every way more satisfactory to cover the wound with flexible collodion, and let it go at that.

CHARLES F. MORRISON.

Apopka, Fla.

Queries

QUERY 5979.—"Fluorescin Test for Death." J. E. B., Wisconsin, calls our attention to the following item which has appeared recently in several medical journals.

"A remarkable new method of deciding absolutely whether a person is really dead and thus avoiding a possible premature burial is announced by Doctor Icard, of Marseilles. Its efficacy depends upon whether the blood is still in circulation or not. The test consists of a subcutaneous injection of a small quantity of fluorescin, which is quite harmless but one of the most vivid coloring-

matters known. If there be the slightest motion of blood the fluorescin stains the blood a vivid golden-yellow, while the eye becomes a deep emerald-green."

Our correspondent asks us to state (1) the amount of fluorescin injected hypodermatically, (2) how long a period elapses before the eye regains its natural color, (3) how soon after injection the eye will show the "emerald-green color," and (4) whether the test is dangerous.

A careful search of the literature at our disposal fails to reveal any mention of the

fluorescin test for death, further than the statement in the addendum to Gould's Medical Dictionary to the effect that the injection of 16 grains of fluorescin colors the mucosæ yellow inside of a few minutes. Just how long staining of the mucosæ lasts, we cannot say. We should imagine, however, that the tissues would continue stained for several days.

We intend experimenting upon animals in order to secure definite information upon this subject.

We may add that fluorescin is derived from fluorescëin, and is, chemically, resorcin-phthalin. Like the former, its solution has been employed in ophthalmology for detecting minute lesions of the sclera, a drop of a 2-percent solution on the eyeball revealing the sore by its yellow discoloration.

QUERY 5980.—"Indications for Glonoin." H. L. G., Illinois, wants us to state when to use glonoin, and why. "From my understanding of its physiological influence, and experience on myself and others," he writes, "I consider it entirely out of place in combination with heart medicines, as, for instance, the usual 'heart' tablets containing several ingredients. I believe that much harm thus is done, often unknown to the doctor. I consider nitroglycerin a remedy in a class all by itself. I deem it a drug which should be used apart and supplementary, never continuously in heart conditions."

To a certain extent we agree with you; on the other hand, though, we must remember that the action of glonoin, while prompt, is rather evanescent. You, therefore, may give glonoin in conjunction with other drugs acting more slowly and persistently, the latter maintaining the effect.

We are sure you will readily understand the rationale of such medication. Glonoin is a stimulant in small doses and, as you know, produces flushing of the skin and fulness of the cerebral vessels. It acts, therefore, upon the vasomotor nerves and dilates the arterioles. Its use is indicated whenever it is deemed advisable to relieve internal congestion by drawing the blood to the surface: where anemia of the brain exists, i. e., collapse, syncope, in angina pectoris, and for the relief of internal pains of congestive origin.

To secure the best results, the nitroglycerin must be given in dosage enough to cause flushing of the face, fulness of the head, and increase of cardiac energy. In emergency cases, three or four granules (gr. 1-250 each),

dissolved in hot whisky or water, may be given, or a solution injected hypodermically; the dose being repeated every fifteen to thirty minutes, until the characteristic effect of the drug is produced. The most alarming symptoms produced by giving full doses of glonoin are quickly recovered from. No lasting bad effect has ever been observed.

We must recall that during a paroxysm of renal, hepatic, uterine, stomachic or intestinal colic the face is pale and looks anxious, and the skin cold and moist. It is evident that the arterioles of the integument are contracted; hence, we have a condition of capillary anemia, which invariably produces pain and also spasmodic contraction of the muscular tissues.

It is true, that the vessels of the organ or structure involved may be dilated (causing congestion of the part), while the arterioles in all the other parts of the body are contracted. In either case, nitroglycerin, by its action upon the vasomotor centers, overcomes the contraction of the arterioles, flushes the anemic capillaries and, by removing the cause, dispels the symptoms.

In dysmenorrhea, which is a very common disorder, attended with its severe pains, we ordinarily find more or less uterine congestion; throbbing, aching and pricking sensations in the womb are complained of, and the natural degenerative process (accompanied by exfoliation of the endometrium) proceeding slowly, the underlying capillaries, covered with a firmly organized membrane, become congested and cannot disgorge themselves. Here, understanding the cause, we naturally should divert the blood from the uterus. We cannot accomplish our purpose better than by administering glonoin. Other remedies may be added or given later to maintain the effect.

Glonoin, therefore, is a distinct emergency remedy and in many instances should be given alone, but, understanding its action thoroughly, we must allow that it may prove a useful synergist, or rather that its addition may pave the way for the action of other drugs and render them more certain.

As an illustration: In angina pectoris, glonoin gives almost instant relief, by relaxing spasm and vascular tension. As is pointed out in the "Textbook of Alkaloidal Therapeutics," the instantaneous relief from agonizing pain and sudden danger forms one of the most satisfactory exhibitions of therapeutic power known." Within an hour the effect of glonoin will have passed, when further cardiac disorder is apt to appear,

unless we supply immediate tone to the sorely tired muscles by giving cactoid.

Cactoid does not act as rapidly as glonoin, but it begins to act as the glonoin effect wanes, and thus tides the organ over a most trying period. Glonoin and atropine also may be given together, especially where a condition of alternant dilatation and contraction of the vessels obtains.

You will find glonoin an ingredient of a "heart-tonic" tablet. This formula, as we have pointed out, is of the "shotgun" order, but clinical experience has proven its utility where it is impossible to make a precise diagnosis or carry out close therapeutic measures, although the patient is in a serious condition and relief essential. Here, the combination of remedies should meet the requirements; chiefly, as we have already stated, by controlling acute congestion and then maintaining normal conditions.

You are aware, of course, that in cirrhotic nephritis, where the pulse is tense and small and the heart hypertrophied, glonoin gives excellent results. The tension which the drug overcomes, however, inevitably returns; therefore, as it would be undesirable to continue to give glonoin every hour or two, we must try to maintain circulatory equilibrium by the use of suitable adjuvant remedies.

Sometimes, also, it is wise to give glonoin and strychnine or glonoin and brucine together. Brucine acts quickly enough to counteract the depression which may follow full doses of glonoin.

We suggest that you read the chapter on glonoin in "Alkaloidal Therapeutics."

QUERY 5981.—"Solidago Aurea in Catarrh." J. M., Texas, asks: "What have you to say about treating catarrh with solidago virga aurea? What literature is there on this subject?"

We were not aware that solidago is being used in the treatment of catarrh. It is possible that the drug has been recommended by some contributor to CLINICAL MEDICINE, though we are not able to locate such an article.

No active principle or concentration of the drug is available, to our knowledge.

Solidago virga aurea, European golden-rod, is allied to solidago odora, our sweet-scented golden-rod, or Blue Mountain-tea. It is said to relieve flatulent colic, amenorrhea, and sickness at the stomach. The oil is reported to be carminative and diuretic, while preparations of the flowers are considered aperient,

tonic, astringent, diuretic, and beneficial in gravel, urinary obstructions, ulceration of the bladder, and the early stages of dropsy.

Solidago rigida, or hard-leaf golden-rod, is mentioned in King's American Dispensatory, and is said to be a tonic, astringent, and styptic. It was recommended some years ago, by Doctor Bone, of New Jersey, as a powerful hemostatic. The leaves and flowers are the parts employed. The American Dispensatory states that solidago deserves further investigation.

QUERY 5982.—"Purpura Hemorrhagica." C. D. F., Ohio, has in his care a woman with a stubborn hemorrhagic purpura, this patient having gone the rounds among some of the "good men." These have prescribed styptics and ergot preparations, also calcium chloride, geranium, and a lot of other things. The Doctor is now administering a combination of hydrastis and viburnum, and although some relief is secured at the menstrual periods, the same prescription does not prove effectual otherwise. Hydrastinine, our correspondent thinks, should be the proper remedy in this case.

Tonics and vitoincitants are, of course, invariably necessary in conditions of this nature. Hydrastinine, however, can hardly be expected to produce positive results. This alkaloid, through its action upon the smaller blood-vessels, is strongly hemostatic, proving peculiarly useful in postpartum hemorrhage.

We must remember that purpura may, and does, occur in many conditions associated with altered states of the blood. The treatment, therefore, is symptomatic, to a great extent.

In purpura hemorrhagica, the constitutional disturbance is severe. Not infrequently the pyrexia may reach 104 to 105° F. In favorable cases, reoccurrences may take place every few days, and recovery ensue after weeks or months. Naturally, anemia is a serious complication.

As the more modern writers point out, purpura must be regarded merely as a symptom, so that it is the underlying condition that must be ascertained. The blood should be examined, and leukemia, especially the acute lymphoid form, be excluded.

Calcium salts, alternated with liquor arsenii compound (Barclay), prove most efficacious in these conditions. Normal horse-serum may be given a trial in appropriate cases, for many patients have responded favorably to from 10 to 30 Cc. of it, repeated

three or four times a day. Remedies such as hydrastinine, hamamelis, and other constringents, are useful only when applied to hemorrhagic areas of the mucosa.

QUERY 5983. "Gonorrhea and Marriage." R. W. H., Wyoming, has a patient who has had gonorrhea and now is desirous of getting married. He wants a positive assurance that he is free from gonococci. About one year ago the discharge ceased, but he has been rejected by a physician (after an examination) for admission to membership in a benevolent association. The man desires a microscopical examination of his urine, and whatever else is necessary. Just how he shall proceed is the question.

The patient's urine should be collected, by the three-glass method, upon his arising in the morning. Proceed as follows: The 2 or 3 ounces of urine first voided is passed into one vial; the next, and greater portion, of voiding, is collected in a second vial; and the remnant of 1 or 2 ounces in a third one. These containers (which must be sterile) are then marked "1," "2," and "3," respectively. The prostate gland should be massaged, also, and a specimen of this prostatic discharge, as well as a swabbing from the deep urethra (both properly plated), must accompany the three samples of urine.

Unfortunately, one such examination, if results are negative, will not suffice; hence, if there is the slightest sign or suspicion of involvement, this procedure must be repeated during two months, at intervals of two weeks.

If at any time any shreds or pus-cells are found in the urine or gonococci or pus in the massage products from the prostate gland or vesicles, consent to marriage must be withheld. Also, remember that it is necessary to use a urethroscope. If any lesion is demonstrable, the physician should refuse his sanction of marriage and insist upon a systematic course of treatment, prolonged, if necessary, for weeks.

Men unwilling to undergo such treatment or to wait the necessary time must be informed by the physician that he cannot assume any responsibility as to the consequences of the marriage. If the disease has not been completely eradicated, an exacerbation frequently occurs during the first weeks of married life. On the other hand, if no lesions in the urethra or gonococci and pus in the discharges can be discovered by repeated examinations, the patient can marry, and we may feel assured that infection of the wife is extremely im-

probable. The doctor, at least, has exercised due caution.

QUERY 5984.—"Mucous Enteritis." J. A. M., Missouri, writes us as follows:

"What shall I do for a man 72 years old who always enjoyed good health until two years ago, when he began to spit up a frothy mucus and void the same kind of substance by way of the bowels. All this time his tongue has been heavily coated and during sleep slightly swollen, and he complains of an extremely bitter taste in his mouth. He hears all kinds of loud noises in the ears, such as that of frogs croaking, locomotives whistling, bells ringing; so much so, in fact, that these noises often keep him awake. When the mucus is the most abundant the tongue also is worse and the noises in the ears are loudest, and he then also has severe epileptic seizures. His urine is normal, except after such a seizure, when it is heavy with phosphates and a small amount of albumin. These attacks recur until the mucus is thoroughly worked off by means of cathartics; and then, if the tongue can be kept clean for a few days, he will have no further seizures and begins to look like a new man. But, in spite of all my treatment, this mucus persists in developing anew. The man is not a gormandizer, nor is he constipated. The mucus is as clear as the white of an egg, but much more tough. There is no evidence of internal soreness or other lesion. Has this man a tapeworm, or what, pray, is the matter with him and what would you advise giving him?"

We regret to say that it is not possible to venture a positive diagnosis from the meager data furnished, although we are inclined to think your patient suffers from mucous enteritis or a severe form of catarrhal gastritis, with pronounced autotoxemia as a result. Should he harbor a tapeworm, segments will be found in the stools from time to time. It would be advisable for him to watch the passages carefully for a few days. We suggest sending a typical specimen of the feces, as also some of the expectorated mucus, to our pathologist, for examination.

At the same time, doctor, give us a clear, complete clinical picture. Pay particular attention to the area of hepatic dulness, noting any tender regions revealed by deep pressure. See whether you can outline the stomach and transverse colon; also examine the rectum by reflected light.

You do not state whether the patient is fat or emaciated; neither do you give us any idea as to how long the supposedly epileptic

seizures have been present. The advanced age of the patient must, of course, be considered. Has he ever been addicted to the use of alcohol? What is the blood pressure and the pulse rate? Has any blood been voided with the mucus?

QUERY 5985.—“Peculiar Eruption in New-born.” C. P. M., Oklahoma, presents a very peculiar case and asks for a general discussion.

“A married woman, 22 years of age, mother of two children, was delivered of what seemed to be a normal girl baby. The baby was washed and dressed, the ordinary antiseptic precautions being observed. After four or five hours, the baby became very fretful; by the eighth hour, its eyelids started to swell and a papular eruption began to break out symmetrically over the entire body, and these lesions, 1-16 to 1-8 inch in diameter, would shortly break down and discharge a thin yellow pus. On the second day, the eyelids were considerably swollen. The discharge was a thick, cheesy pus, occasionally blood-streaked. Eruption no better. Third day, considerable edema of eyelids, and still discharging pus of the same character and occasionally bleeding a little; general eruption no better. Fourth day, eyes slightly improved, and still discharging pus freely, occasionally would bleed a little; general eruption no better. Fifth day, eyes still improving, but yet discharging pus, though not so freely as the day before; general eruption improving fast. Sixth, seventh, eighth, ninth, and tenth days, marked improvement of eyes and of general eruption as well. Twelfth day, case dismissed, baby doing nicely.

“History of the family is negative; but the first baby had this same general eruption. Temperature of mother was normal. Temperature of baby slightly elevated at times only. Maternal discharges lasted for some ten days after birth; odor and color normal. Placenta was expelled within thirty minutes after birth; its condition normal. In fact, all was nice and well with the mother.

“Treatment: Cleansing of the eyes with a saturated solution of boric acid, followed by instillations of a 1-percent silver-nitrate solution, then dressing with plain gauze. The general eruption was dusted with an antiseptic powder.”

This is a very peculiar case. It hardly seems possible that the infection could have occurred *after* delivery; and, yet, were it a staphylococcal infection of intrapelvic origin, the health of the mother would certainly not be “continuously satisfactory.” That the

previous child presented the same peculiar eruption, points directly toward a maternal origin. The fact that the temperature of the mother was normal and there was no evidence whatever of abnormal condition of placenta, lochia or birth-canal, while the child's temperature was only slightly elevated at times, naturally increases the difficulty of arriving at a diagnosis.

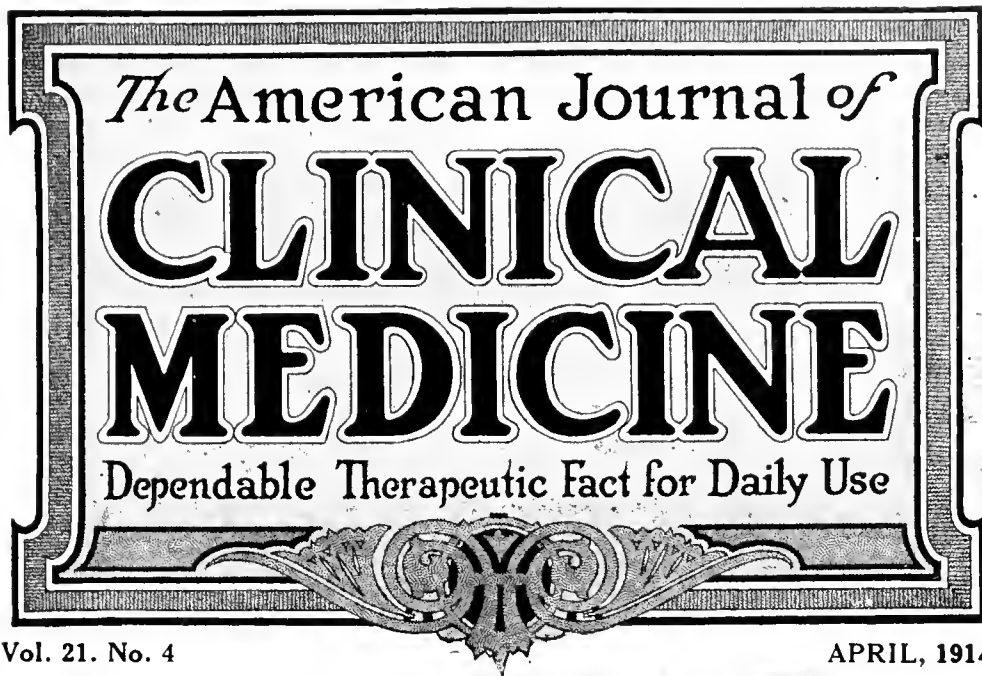
As a matter of fact, without a careful examination of the mother's blood and the discharge from the child's lesions, it would be impossible to ascertain definitely the nature of the infection. The Neisser bacillus, however, probably is responsible for this trouble.

QUERY 5986.—“Elongation of Cervix.” J. J. C., Oklahoma, reports the case of a peculiar anatomical anomaly in a woman. This woman is 28 years of age, menstruates regularly every twenty-one days, always has enjoyed good health, never requires medicine other than an occasional laxative. She has been married six months, about.

The cervix of the uterus is very much elongated, extending to and beyond the urethral orifice. It is between two and three inches long and very slender, and at times it interferes with micturition; it readily doubles on itself. The body of the uterus appears normal as to size and condition. Says our correspondent: “Excision seems to be clearly indicated. But what as to her future? In case of pregnancy, what? She is adverse to any operation, if avoidable. Would pregnancy be at all probable in her present condition?”

We are at a loss to understand how an elongated cervix can interfere with micturition, or come in contact with the urethra, as the woman avers; for, even if it is slender and readily doubles upon itself, one would not expect it to turn upward. The length of the cervix under such circumstances must materially exceed three inches, unless the uterus is prolapsed. If children are desired, operation clearly seems to be indicated, for pregnancy is not likely to result unless this abnormality is corrected.

Such elongations of the uterine cervix are congenital and the result of hypertrophy of the normal tissues, this over-growth sometimes being so great that the cervix protrudes from the vulvovaginal orifice. Naturally, the accompanying stenosis and changing position must interfere with conception. Amputation is the only remedy, provided there is no uterine prolapse and relaxation of the vaginal walls.



The Personal Side of Practice

LOOKING over one of the numerous trade-journals a day or two ago, (I forget just what journal it was), I read the following piece of trade-philosophy: "If you think you can keep a man's patronage in your store, and look over his head when you meet him on the street, you have another guess coming."

Far be it from me to suggest that the practice of medicine is a trade or that a physician's professional standing depends upon the extent to which he can ingratiate himself into the good graces of his neighbors. Still further from my mind is any suggestion that any man—be he physician or merchant—should cultivate the good will of his neighbors for the sake of the business he expects to get out of them.

Nevertheless, the profession of medicine resembles the business of a merchant to this extent, that, no matter how full one's hands may be of good things which people need or how ready one may stand to deliver these good things into the hands of those who need them, one can not force them upon his fellows, but can only furnish them on request; and people will not request them unless they feel some kind of trustful and congenial sentiment toward him who has them to bestow. In other words, no matter how well equipped or thoroughly trained a physician

may be in a technical way, when it comes to the exercise of his functions he is obliged, like every other worker who deals with men and women, to exercise them through the channels of human nature; else will all his fine training and equipment be just so much glittering, but barren, decoration, serving no useful purpose.

Consequently, I could not help reflecting that the little squib of trade-philosophy quoted at the outset applies every whit as much to the doctor as to the tradesman. No matter how irreproachable his credentials, the doctor cannot hope to succeed in doing much with his talents, to say nothing of acquiring much of a competency, who "looks over the heads of his patients when he meets them on the street." The older men, especially in the smaller towns, soon learn this by experience. That is one of the reasons why they surpass the younger men. And the young doctor who is wise enough to hear and regard the lesson from the lips of his elders invariably passes and outstrips those who despise it.

However much it may tickle our vanity to regard ourselves in the light of impersonal scientific experts, called in consultation only on account of our skill and knowledge by persons who feel they can not do without us

(and occasionally, here and there, there may be a man who succeeds along those lines), yet, in general, that is not the way in which the public looks upon us and our services.

Humiliating as it may be to the self-conscious physician to contemplate, people regard us doctors as being engaged in a competitive business. They think and talk about "employing" us—sometimes they even speak of "hiring" us—and, naturally, they prefer to engage an agreeable man to employing a snob.

But there is a pleasanter side to the matter. The average patient, particularly in the smaller towns and rural districts, regards his medical attendant in the light of a family-friend and adviser. But, unless he bears out this relation, he does not fulfill this function. And, certainly, he can not hold this relation to his clients when he looks upon them impersonally as so many "cases" and gives them the "stony stare" when he meets them outside of professional calls. A person expects more personal interest than that even from the man who furnishes him coal or meat; how much more from him to whom he looks as his counselor and confidant in the most intimate matters of sickness and health.

It is not necessary that this attitude should be overdone, that the doctor should force himself upon the social life of his patients. But, cultivate the personal side of your professional relations, not alone because of the larger financial returns it will bring you, but, above all, because of the greater scope it will afford you for doing good with the skill and talent that you possess.

To make a sensation, be one.—Gerald Stanley Lee.

THERAPEUTICS OF THE EMOTIONS

We yet grope in darkness, but toward the east there are glimmerings that betoken the coming dawn. We may hope that the dense blackness of human ignorance, the clouds of superstition and the mists of deception may be dissipated; that the benumbing cold of discouragement and the sloth of hopelessness may be thrown off, and the race start along the path of true progress, animated by ambition and enlightened by freedom.

All of which may be very fine—but what's it about?

Why, simply this, that the most primary truths, that should be self-evident to every man whose noddle circumscribes a think-machine, seem to occur at rare intervals, to lone individuals, who quickly forget them;

or else they proclaim them as startling innovations that arrest public attention a moment and are then extinguished by neglect or driven out by public clamor.

Take a few examples, not enough to be burdensome or exhaustive—or exhausting. For centuries, at intervals, some bright fellow has arisen to remark upon the melancholy induced by constipation and fecal reabsorption (as we now know it), and his hearers have applauded wildly, said he told the truth, and then forgot all about it. Nobody ever put it more succinctly and truly than did Voltaire, but the discovery has been made independently before and since his day, many hundreds of times; and each discoverer has been penetrated with the vast importance of his discovery.

But it has been only in the most recent times that this important truth has so permeated the consciousness of the mass of the medical profession as to become an integral part of their practice. Just now the man who heralds as an enlightenment the proposition that fecal toxins induce emotional depression would be received much as if he had asseverated that the sun goes around the earth.

Once really appreciated, the evidences of the malady are easily recognized. When a man's conversation over the telephone makes you surmise that his ordinary diet of shingle-nails has been adulterated with tenpennies, you fervently adjure him to take a few pills, then ring off. When the wife of your bosom chats with you for half an hour in the dulcet tones of a lonesome cat because you didn't stop and inquire about her mother's health and then puts in another half hour like two lonesome cats when she finds you did, you ring up the pharmacy and order another pound of saline laxative.

Now that we have found one solid footing in the swamp surrounding us, why can't we take another step? There are little glimmers of light about us that may be will-o-the-wisps; but we think not. For one thing, we have arrived at or near to the right road by first taking every other that could possibly be taken; and by this sure although decidedly slow method have eliminated the chances for error.

One of these brilliant flashes of genius occurred to ourselves many years ago. This was when we announced that valerian was a remedy for grief, inasmuch as persons unnerved by trouble could, by taking a few doses of it, restore their self-control. What influence this curious old drug has over the bodily functions to make it impart such con-

trol is a study we commend to the man who knows his physiopathopsychology so completely that there are no dark corners to him. All our lives we have been looking for the man who possesses this consummate knowledge of the human being. Several times we have heard from his own lips that he existed, but each time it proved a sad case of self-deception.

Scintillations should not come too closely together, but here's another: Sleep, the same as fatigue, is induced by the accumulation of the toxins formed by the waste of tissue in work. When our physiologic chemists have isolated the particular hypnotic toxin, we have the remedy that will displace morphine from its throne, and relegate to oblivion the German synthetics, that in rapid succession have enjoyed each for a brief season the proud distinction of being the really best and most absolutely perfect of their genus. Meanwhile, here is the scintillation: a hot bath removes every vestige of fatigue together with its consequent somnolency.

Completely exhausted by the labor of concocting one of these editorials, so that we nearly fell asleep over the last page (maybe you noticed it), we took such a hot bath. The relaxation was so grateful that we lay in the tub for nearly fifteen minutes. Per consequence we suffered a sleepless night. Repeated trials, after fatiguing ourselves with ax and spade, convinced us that this was no chance sequence, but consequence, and we are ready to contend believingly that the hot bath removes the sense of fatigue and prevents its usual results.

Follow this up a ways. The fatigue-toxins are eliminated through the skin; very quickly, indeed, under the stimulus of heat in the moist form; they should be recoverable from the bath water; the transfer from muscle through blood to and through the skin must be rapid; and the chemist may place the substance pretty near its class by noting these characteristics. Is the elimination of these toxins enough to enable one to go on working without rest, or is a period for recuperation of the exhausted muscular fibers, with due nutrition, also necessary? Some tireless man might try the experiment—it is our place to indicate rather than to do things.

To what do these glimmerings point as to the future development of medical science and art?

The practitioner of the near future may diagnose the psychic state and from it read the physical disorder. He may trace undue pugnacity, and let out a few Ccs. of bile;

too much grief, and supply the specific astringent for the lacrimal gland; excessive hilarity, and constrict the cerebellar arterial system; exaggerated caution, and he injects a serum from the backbone and so on and on. The psychic diagnosis is the index of the system, as the uranalysis used to be. The hen-medic will come into her own, since in swiftly interpreting emotional states she distances us without effort. The laborious work of the present pathologist will seem like that of the early mathematicians who constructed the multiplication table.

Will that happy day ever really come?

I know a man . . . who crammed his brains with books, and learned whole sciences by heart, and read till he could read no more: that was how he furnished the room, and it looked like the inside of a second-hand furniture shop.—From "Confessio Medici."

HOW IDEAS GROW!

One of the recompenses of age is, that as the years roll by one gets a broader view of man and his doings. How the point of view does change as men grow accustomed to new ideas and gradually assimilate them.

The "modern germ theory" it was termed at first. Strong was the sentiment of opposition, rather of condemnation. It was "radical, extreme; revolutionary; those light-heads, who are ever ready to fly away with every will-o-the-wisp, they all rally to it." Later, "well, there may be some truth in it—perhaps—but not nearly what these crazy fellows claim. Why, soon they will be saying that all disease is caused by germs."

The day came when I myself threw this opprobrious charge at an advocate of the germ theory. But he replied calmly: "Well, every effect has a cause; every irritation presupposes an irritant; and this irritant can be only a vital or a chemical agent. Your chemical irritant may be of microbic or other origin; so you again come back to the microbe."

The more closely I studied this proposition, the stronger its logic appeared; and, with the rest, I soon quit objecting to the germ theory. Nowadays everybody whose opinion is worth anything admits it, reasons from it, acts upon it. Nobody contests the genesis of certain diseases from living organisms, because enough instances have been proved, and there is no supportable theory of other cause to which they can be attributed.

Then, again, how the application of therapeutics against these germ invasions has developed since Lister sought to meet them

grossly with carbolic acid. The promised simplification of practice has not materialized. The proposition was: "germs cause disease; ergo, kill the germs." But instead of this we have been forced by nonsuccess to study the biology of germs, to recognize each variety as a separate entity, and to build a new science, that of bacteriology, to enable us to comprehend these creatures and seek the means of opposing them successfully. New knowledge, new ideas, new remedies and methods; in effect, the adoption of the "modern germ theory" has opened the door to a new world in medicine.

Now, all this lucubration results from reading the quotation opening of Stubbs' paper on "Fallacies in Regard to Contagious Diseases," as printed in our February and March numbers. Were we to set down all the thoughts developed by perusing that admirable paper, the editor would interpose his *non possumus*.

The men who are busy miss half of the work that's hunting for victims to slay; they get all the cream in this valley below, while idlers subsist on the whey; while fortune kicks others she'll give you a kiss, you'll win more applause and you'll know more of bliss, if you always keep pegging away.—Walt Mason.

THE ABDERHALDEN SERUM REACTION

No discovery of recent years has created more interest in the medical profession than that of Professor Emil Abderhalden, of the University of Halle (a portrait of whom was printed in our January number), relative to the serodiagnosis of pregnancy and of various types of malignancy. An excellent résumé of Abderhalden's diagnostic methods appears in a recent issue of *The Boston Medical and Surgical Journal* (Feb. 26, p. 303); being a paper by Dr. A. K. Paine, in which he discusses the serodiagnosis of pregnancy. The following remarks are based in part upon that article.

The Abderhalden theory is based upon the fact, now pretty well recognized, that, when substances (cell proteids) common to body-tissues but of different formation are introduced into the animal body, they first must undergo a digestive, or lytic, process before they can be disposed of or eliminated. This digestive process is effected through the action of certain protective ferments that attack the foreign substance and change it into a form acceptable to the organism.

The vital point in the Abderhalden theory is, that every individual foreign proteid

entering into the circulation has the power of stimulating the body-cells to produce a specific enzyme capable of effecting its digestion. For illustration, let us take the case of pregnancy.

Shortly after pregnancy is established, and continuing up to and for some days after its termination, chorionic epithelial tissue or cells enter the circulation of the mother. This epithelium acts as a foreign proteid, and as such gives rise to the formation in the blood of a special protective ferment, which attacks those cells, renders them soluble, and so makes them acceptable to the organism.

Exactly the same thing occurs in the case of carcinoma or sarcoma. In the former, the carcinomatous cells that may escape from the tumor into the blood set up a reaction, in consequence of which a protective ferment is formed specific for cancer-cells and capable of destroying these, and these only. The same is true in sarcoma, and in dementia præcox, epilepsy, and doubtless many other diseases the etiology of which we do not understand as yet.

Taking into consideration these observations, Abderhalden arrived at the conclusion that, inasmuch as this digestive process occurs within the living body, it might possibly be reproduced outside of the body. In other words, if a portion of blood be withdrawn from a patient suffering from, say, cancer, the blood-serum ought to contain the ferments capable of causing the digestion of cancer-tissue. Then, inasmuch as the albumins, as they occur in the body, are colloids and therefore incapable of passing through animal membrane, by this specific digestive process they would be converted into soluble substances capable of passing through such a membrane.

In order to perform this test, therefore, the investigator must be provided with a supply of tissue of the same kind as that conjectured to be present in the subject's body. This tissue is cut into small pieces, washed, subjected to certain preparatory treatment, and then carefully dried. Some of it is then placed in a parchment bag with the fresh blood-serum withdrawn from the patient whose blood is to be tested. Then this parchment bag is immersed in sterile water and kept in this surrounding medium at body temperature for a period long enough to permit of the specific digestive process.

If, under this treatment, any digestion of the cancer-tissue takes place, the products of digestion will dialyze through the parchment membrane into the water outside, where they

may be detected by the addition of ninhydrin, this agent imparting to the liquid a violet color in the presence of protein derivatives. If this occurs, the reaction is pronounced a positive one; in other words, the patient is assumed to be suffering from cancer.

The method of procedure is exactly the same in execution for pregnancy, for sarcoma, for dementia præcox, and for other diseases, except, of course, that the test tissues employed—sometimes called “fundaments” or “substrats”—will be different; being, in each case, a specific tissue for the disease in question. Thus, for pregnancy, the fundament is placental tissue; in dementia præcox, it is the testes or ovaries; in sarcoma, it is sarcomatous tissue. So for other conditions.

The execution of the test, it hardly need be said, is not easy. It must be carried out correctly in every minutest detail, otherwise confusion is bound to follow. To illustrate the ease with which mistakes may occur, we may quote from Paine's article the experience of two investigators, Schimpert and Hendrey, who, working in Freiberg, were unable to secure the results reported by Abderhalden. Thereupon these two men went to Halle and in Abderhalden's laboratory perfected their technic; however, upon returning to Freiberg, their tests again failed. Finally, investigation disclosed the fact that the water of Freiberg employed for washing the placental tissue was so soft as to cause hemolysis of the blood in the placenta, which resulted in a contamination of the material and a distortion of their results. By simply adding salt to the wash-water, they were enabled to duplicate Abderhalden's work.

The details of the Abderhalden test have not, of course, all been worked out as yet, and that it will do in every instance what is claimed it is perhaps too early to assert. For instance, it is reported that an investigator in the medical department of the University of Illinois has secured positive pregnancy Abderhalden reactions in all cases of pneumonia, in men as well as in women. Just what may be the significance of these results, we shall not undertake to say until they have been reviewed by others. In the main, however, it seems to be the experience of many workers in this field that the tests are specific for the respective specific diseases or conditions, and that failures mainly are attributable to defects in execution or lack of proper controls rather than to any error in the fundamental principle as laid down.

Should these tests work out as expected, they are bound to open up interesting lines of

research. Not only will it be possible to prove definitely the accuracy or the inaccuracy of a diagnosis in a given case long before this would otherwise be possible, but it may become possible to determine the character of many a disease the nature of which is so obscure as to give no clue to its identity.

What, indeed, is to hinder the laboratory-worker from collecting a “battery” of fundaments comprehensive enough to include all the important tissue aberrances likely to be encountered? With such a battery, the serum of any patient suffering from some obscure disease could be tested against a dozen different tissues, if necessary, until the fundamental flaw would absolutely be “run to earth.”

The Abderhalden test also may serve as a guide to research. For instance, it has already practically revealed, it seems, the identity of the pathogenic factor in dementia præcox, a disease which long has baffled all investigators. Thus it has been shown that, in this disease, the patient's blood reacts to the sexual glands. Acting upon this last suggestion, Dr. G. Frank Lydston, of Chicago, already has begun a series of experiments upon living individuals to determine the results effected by the transplantation of testicular tissue or ovaries. If the fault lies, say, in a diseased ovary, then the removal of this gland and the implantation of normal ovarian tissue ought to yield good clinical results. We understand that Doctor Lydston is making such transplantations, and his results will be watched with interest and anxiety.

Now, if in the case of dementia præcox the Abderhalden test is capable of throwing light upon the etiology of an obscure disease, is it not probable that, using the same methods, it may reveal the essential etiology of many other obscure diseases? To us it does seem probable.

Still another line of research made possible by the Abderhalden test is the therapeutic one. The foreign tissue elements which enter the blood in the course of pregnancy, in cancer, and in the rest—act upon the blood in a way exactly analogous to the antigens which play such an important role in the establishment of immunity. Just as the antigens cause the appearance in the blood of protective antibodies, so the “fundaments” occurring as a result of disease cause the production of protective enzymes. It *seems* but a step, then, to the possibility of collecting these protective enzymes from the bodies of experimental animals and using them in the treatment of disease; primarily, of course, to arrest its progression.

We advise every doctor interested in the advancement of medicine to follow closely Abderhalden's work. That it will be "all gold," that there will be no discouragements and no failures, we do not believe; but that it promises much for the interpretation of disease and probably also for its relief there seems to be no question.

And, into whatsoever houses I enter, I will enter into them for the benefit of the sufferers, departing from all wilful injustice and destructiveness, and all lustful works, on bodies male or female, free and slave. And whatever, in practice, I see or hear, or even outside practice, which it is not right should be told abroad, I will be silent, counting as unsaid what was said.

—From the Oath of Hippocrates.

THE HARRISON ANTINARCOTIC BILL

The Harrison Antinarcotic Bill (H. B. 6282), to which we have referred several times in these pages and which already has passed the House of Representatives, has at last been favorably reported by the Finance Committee of the United States Senate, and is now before that body for final action. Several minor changes were made by the Senate committee, the most important being the inclusion of hypodermic syringes and needles upon the same terms exactly as narcotic drugs; in other words, if the bill passes as it reads at present, purchases of such syringes and needles must be made upon the official order-blanks provided by the government, and dealers in such apparatus will have to be licensed the same as dealers in drugs. This proviso will not seriously inconvenience the physician, and should be acceptable to the medical profession.

So far as the doctor is concerned, the only amendments made rather add to the liberality of the bill than otherwise. A portion of Section 2 has been changed to read as follows:

"Nothing contained in this section shall apply—(a) To the dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist or veterinary surgeon registered under this Act in the course of his professional practice only; Provided, That such physician, dentist or veterinary surgeon shall have been specially employed to prescribe for the particular patient receiving such drug or article; And provided further, That such drug shall be dispensed in good faith, and not for the purpose of avoiding the provisions of this Act."

The wording of this section is considerably more liberal than it was when passed by the

House of Representatives. This change we feel sure will satisfy every physician.

Every physician who reads these lines should use all the influence at his command to secure the passage of this bill. We particularly urge you to write to your senators, requesting them to vote for it, and to *oppose any amendments likely to embarrass or burden the profession. As it stands*, it can harm no clean physician. Strong efforts have been made to secure the passage of a bill that would hamper the physician in his right to dispense, and even yet this bill may be so revised as to cause the doctor serious difficulties. Object to amendments involving the physician in some possible maze of book-keeping.

No honest doctor, druggist or manufacturer can complain of injustice or oppression if the present bill becomes a law; yet, it will effectually limit, and we hope in the end absolutely prevent, the sale of habit-forming drugs for illegal purposes.

Let us all show that we are on the right side, by getting our shoulders to the wheel. Don't delay—act at once. Write to your senator.

REASON AND EXPERIENCE

Assuredly, those who sing the efficacy of intestinal antiseptics have plenty of authority for their justification. The experiments made by Stern and others seem to show conclusively that neither calomel, naphthol, naphthalin, salol or camphor really diminish the number of microbes inhabiting the intestinal canal, except as any of these agents may act mechanically as a purgative. Thymol, in doses of 9 to 12 Grams administered during three days, according to Cohendy, reduced the number of the microbes to one-thirteenth. But such doses are too perilous for any purposes except in emergencies.

In truth, the use of intestinal antiseptics rests solely upon clinical experience. This is "notoriously untrustworthy," but nevertheless it has its value. For the sulphocarbolates, the testimony is significantly unanimous—when these are employed with proper purgation, the patient gets well with a certainty that has few parallels in therapeutics.

Time and again some stout pessimist, honest withal and rather than lose a chance of benefiting his patient, has reluctantly consented to give this remedy a trial. I know beforehand the verdict, I have heard it so often: "The sulphocarbolates have been a revelation to me."

Surely. Because despite all theoretic objection, despite the *a priori* reasoning, that they "can't disinfect the bowels," the patient gets well, and his crisis passes when the stools lose abnormal odor.

The difficulty is a logical one—reasoning from premises that do not justify the conclusion. The mistake is in assuming that these remedies can benefit only by reducing the intestinal population and lessening the excretion of urinary toxins.

Again, we must ask you to remember that a fact may remain a fact even when our explanation of it is incorrect. The history of medicine is full of instances where this truth has been demonstrated. We dreamed golden visions as to the increase in human longevity when vaccination extinguished smallpox; and who could have foreseen the rapid increase in the prevalence of scarlatina and measles in consequence of the greater number of possible victims left to these maladies?

Another, and curious, instance is the result of "fletcherizing." We all know people did not masticate their food enough and that the process of digestion should be well under way before the food left the mouth. But it has turned out that this occasions a loss of tone in the intestinal musculature, and the title of bradyphagy has been coined to express the resultant condition. Einhorn finds a rapid cure resulting when patients are directed to bolt their food, after very little mastication.

"Deny everything and demand proof."

"Take nothing for granted," as the man said who sat down on a scorpion. Don't make the mistake of knowing too many things that are not so.

Doc Duffy says he once knew a doctor that read books until he had all the medical learnin' except what hadn't been found out, and then died a pauper with all his patients debtors to him.—*The Willows Magazine*.

MRS. WILCOX ON VIVISECTION

Ella Wheeler Wilcox, in *The Cosmopolitan* for March, has a lot to say about vivisection and its effects upon the men who practice it. The good lady may not be very good authority as a critic of matters and men medical, still, she and the magazine have a large audience, and the impression made by such articles matters quite a deal to us. Besides, we may read these screeds, with wholesome chastening for they present one aspect of the public's belief about us. Let me expatiate:

I have always been somewhat careless as to the proper expression of my ideas, and many

times have been blamed (as I felt, undeservedly) because people who read my writings took from them impressions not at all those I had in mind and endeavored to convey. Allowing that the trouble often has been with those who failed to read carefully or understandingly, yet, part of the fault lay with me, as I had not so expressed myself that all could readily grasp my meaning. Witness, for instance, the kindly folk who are seeking to demolish my argument "advocating" (?) war, when in fact I tried to say that those young rascals had better become soldiers, fighting for their country, than burglars and footpads.

Now let us hear what the lady in question has to say about us. Says she:

"All that the antivivisection societies can hope to accomplish is, free investigation of the methods employed by physicians in this craze for experimentation on animals." Pass we the conflict invited by the word "craze," and we humbly consent to those societies' full and free activities if they will thus limit their own efforts. Whatever can not endure "free investigation" does not command the support of the body of our own profession. However, we do not allow to go unquestioned the testimony of "detectives" who were hired to attend the scientific courses for the purpose of finding something. Those gentry naturally try to earn their pay.

Mrs. Wilcox quotes Winslow: "In the British Hospital for Mental Disease none of the medical men associated with it has ever in any way adopted remedial agencies as the result of any vivisecting so-called discovery." This argument is too limited logically to be very effective; and the facts are too questionable, the inferences too varied to give it any special value. It might, indeed, be used tellingly by competitors against that staff of medical men.

"The craze for operating upon human beings, which has been growing so rapidly for the last ten years, is an outgrowth of the vivisection mania." Here, let it be admitted, is food for thought. Is there such a "craze"? Does vivisection arouse it?

Each may answer from his own observation. Men certainly do grow callous as they become familiarized with operations, and they even may get to crave the sight of blood. The law recognizes this, inasmuch as butchers are excluded from juries trying murder-cases. Blood, suffering, death do not affect the older man as they do the first-course student. Whether operating upon animals also brings this result we can not say from personal ex-

perience, but see no reason for doubting the possibility.

The lady totally misses the point of Crile's report, to which she refers, which is the honesty of the man who acknowledges that with better judgment he might have saved more lives. Crile knows he is not infallible, and manfully says so. Read that again, Ella, and ask yourself whether you find it so very easy to own up when you have been guilty of some serious mistake.

"Every physician who advises an operation should be made to put his statement into writing, saying it is the only remedy which can save the patient's life."

By no means, dear lady, you mistake utterly the function of the surgical procedure. It is right whenever the physician can truthfully state that in his opinion it is the *best* means of treatment at the time available. Operations that alone save life are few and form but little of the surgeon's legitimate duties.

"The physician of the future is one who will teach people how to breathe, how to exercise, how to think, how to eat and drink; and people so taught will need few medicines and operations."

Well, now she begins to talk as if she might have read some of our own editorial efforts advocating preventive medicine. We agree fully.

She quotes a record of six cases of cerebrospinal meningitis in which four of the victims treated without the Flexner serum recovered, while the two that had received this serum died. Too few, dear lady; we require far more experience to decide the fate of a promising remedy. Wait for fuller returns.

Finally she quotes Dr. Max Meyer: "It is, then, evident that serum therapy is not alone empirical and dangerous, but also uncertain and erroneous; hence, we should abandon the path we have been induced to follow, and, instead, should study vegetable and mineral substances more carefully and thoroughly, because we can weigh, measure, and analyze them perfectly."

She adds: "Here we have the key to the solution of this problem."

If the gifted writer really believes this last sentence, she should procure a supply of the literature relating to American plant remedies and study that. The work done here by untitled Americans, without any huge subsidized "institute" to back them, but just the undaunted spirits and tireless minds of sturdy men who wouldn't be downed, might be a revelation to her, and perhaps an in-

spiration as well. But as to abandoning any newly opened path, leading, perchance, toward our goal—we say, No! Whether that path be biologic medicine, synthetic chemistry or active-principle therapy we should follow it stubbornly—but hopefully—to the end.

People came to me, not because I had a degree in surgery, but because they knew I could set them on their legs again, if anybody could. Which I did by the grace of God; and they were well pleased, and gave me many honorable presents of great value.

—Ambrois Paré.

SHALL WE MIX IN POLITICS?

Spring elections are in the air, and, in view of the political agitation which always stirs both city and village during these campaigns, it may not be amiss to address a few direct personal words to the doctor upon this subject.

What, then, should be the doctor's attitude toward a political campaign? Of course, no American with red blood in his veins can hold himself aloof from a political battle, whether he be a physician or a preacher or a lawyer or a merchant, or what not. Such self-repression is more than can be expected of any but a dead man. It is not expected of him. On the contrary, every man is expected to plant himself, frankly and squarely, on one side or the other of the conflict, and to support that side loyally.

The man on the fence or the man who apathetically evinces no interest in the issues is rightly disparaged by the public, which likes to know where a man is to be found on national and local questions and which loves warm blood and enthusiasm.

Therefore, it is neither to be desired nor expected that the physician should maintain an indifferent or cold-blooded attitude toward the political issues that are engrossing his locality. But we do wish to admonish him that, if he does not want his political proclivities to injure his standing or his business, he should take care to confine his partisanship to the holding and possibly to the somewhat occasional expressing of personal opinions, and voting on them at the proper time.

The doctor's position and work in the community are of such a peculiarly public nature that it is very unwise for him to take any very active part for or against any side. He is sure to offend someone; and that someone is sure to have friends and relatives who will resent such an "offense;" and the offended

parties are more than likely to be among the doctor's present or prospective patients.

We are not preaching the prostitution of a physician's principles to commercial policy. No one has a greater contempt than we for the time-server. But, as already intimated, the position of the doctor in his community is a peculiar one, and he is not required to injure his efficiency and curtail his usefulness by going out of his way to stir up political enmities.

There is no reason why he should not frankly take sides and make known in manly fashion where he stands on this and that question. For such an attitude as that he will receive nothing but commendation from all right-minded people. Nobody will bear him any ill-will for that. Nor do we overlook the fact that there may be times and occasions when, even at the risk of hurting his practice, his honor and manhood will demand a more pronounced and active stand. But, as a rule, he will do better, upon all considerations, to maintain a more or less dignified and quiet aloofness from political squabbles, and, above all, to avoid any political entanglements that will embroil him in personal or professional controversy with individuals.

When you come to think about it—did your growling
ever pay?
Did it ever bend a rainbow—chase a thunder cloud
away?
Don't it deafen all the angels when they try to sing
an' shout?
Don't they know that there's but little in this world
to growl about?

—Frank L. Stanton.

THE DOCTOR IN THE SICK-ROOM

Someone has said that in the home the wife is the secretary of state. It is equally fitting to say that the doctor is the commissioner of health. Especially is this true of the family physician, and particularly so in the smaller towns and rural districts, where life remains nearer to first principles than in the larger cities and the division of labor is simpler. His duties and responsibilities by no means are confined to the mere diagnosis and treatment of disease; they are not even limited to times of sickness.

The modern physician, if he would discharge his whole obligation and measure up to the public standards, must constitute himself the adviser and guardian of the family in all matters that pertain to the preservation of health. When sickness comes, he is fortunate if he has at hand and under conditions that

make her services available, a competent trained nurse, who then becomes his executive health-officer, and his *aide*, to carry out the details of his regimen.

In many instances, however, and for various reasons, such assistance is not available, and he is then obliged, to a large extent, to be not only the attending physician but the trained nurse as well. He must take charge not alone of the case but of the patient's person and the sick-room. A great many people are woefully ignorant and helpless in the presence of sickness, and rely wholly upon the doctor, not only for the treatment of the patient, but for the latter's care and comfort. And this necessitates the doctor's being resourceful and handy in all of those little offices and functions of the sick-room which form so important a part in the successful outcome of every serious illness.

Such things are not taught in the medical school or the textbooks. The writer well remembers his own awkwardness in his early practice, which, as is so often the case, was in the country. A great deal is acquired, to be sure, in the course of individual experience, and the family practitioner usually develops considerable aptitude in this direction. But the highest kind of efficiency is represented by the net sum of general experience, as communicated from one to another.

The doctor who would command confidence and achieve success in his work cannot be too ready in these little matters of the sick-room. To the nurse, of course, they are her stock in trade, no less than the knowledge of technical nursing. They are an equally valuable asset to the family physician. Paraphrasing the noble manifesto of Terence, the doctor may well assert: "I am a doctor, therefore nothing that concerns the welfare of a sick person is a matter of indifference to me."

The care and service of the sick-room may appear of trivial moment to the mind of the modern physician, especially to the young physician fresh from the technical science of the schools; but the older and more experienced physician knows that nothing which concerns the welfare of his patient is too trivial to be reckoned with in the struggle with disease, and that the conditions of the sick-room or of the household often turn the scale to victory or else to defeat.

We cannot all be hospital-surgeons, with a corps of trained attendants at our command. Most of us are obliged to be physician, nurse, and attendant, all in one; or, at least, we have to administer the last two functions

through untrained hands, which necessitates our constant supervision and practical direction. Therefore, nothing which helps in the intelligent performance of these humble offices should be indifferent to the true physician.

Education is the unfolding of life, the cultivation of character, the discharge of duty according to ideals which become nobler and more compelling as they are obeyed. This is a process that continues through life, involving pain and discipline. But the result will ennoble the life and strengthen the will to follow after that which makes for goodness and helpfulness.

—Quoted by The Willows Magazine.

SPRING PURGING

There is due about this time a good deal of ridicule directed against the ancient custom of spring depletion. From time immemorial it has been a general custom to deplete the system as the weather warmed up after the long term of winter. In days of yore, it was a brisk venesection that was *en règle*. As by and by the lancet fell from the degenerate hands of the descendants of the mighty bleeders of the past, the custom nevertheless continued in domestic practice. Many an elderly man may recollect the sulphur, and molasses, the sassafras, sarsaparilla, senna and manna, ipecac, and cathartics sundry and various with which his mother sought to relieve him of peccant humors, thick blood, and the concatenation of meannesses that had collected during the winter months.

There were several counts favoring the old dame's indictment—self-consciousness of the presence of the meanness, and the unquestionable sense of relief that followed the vigorous therapy. In view of the latter especially, few of us elder men could refrain from belief in the practice, although with added wisdom we might doubt its explanation.

In truth, this thing has never yet been satisfactorily explained. That one does feel better, lighter, relieved, exhilarated by the purging, everybody knows; that serious illness may have been thus averted, is not difficult to accept. But just why and how?

Nothing is easier than general negation. Just deny the usefulness of the procedure, demand positive proof and an explanation of the pathologic process involved.

Still, a thing may be true, even if we are unable to give a plausible explanation. How many wisecracks have taken the negative over the asserted influence of radioactive waters! The entire sixteen volumes of the unexpurgated "Arabian Nights" does not contain a solitary wonder so unbelievable as wireless

telegraphy. So many popular superstitions and beliefs have turned out to be true, that it is safest to assume the truth of any general belief until it has been disproved—and then to question the disproof.

The universal custom of spring purification is a phenomenon that has a reason back of it, quite as much as the convulsive movements of a frog intoxicated by strychnine. Don't try to explain it; but better act on it, and you will deserve the confidence of your patients.

THE TREATMENT OF TONSILLITIS

To illustrate what changes the acceptance of the "modern germ-theory" has occasioned in our practice, there is no better example than tonsillitis. Take any of the textbooks on practice or therapeutics of thirty years ago and compare them with the latest works on these branches.

Recognition of inflammations as infections leads us to inquire closely into the maladies of that exposed tract of vulnerable territory, the throat. We find this membrane subject to many passing attacks of catarrh, and that some of these are followed by inflammation and suppuration of the deeper tonsillar tissues; while others occasion gastric disorder with acidity or rheumatic fevers. Thus, it behooves the careful doctor to look well to his sore throats, and to stop the condition before it has penetrated deeply or extended far.

If you still claim that this germ-theory has not afforded any great improvement in actual therapeutic applications, make an exception as to tonsillar maladies; for we now treat these understandingly. We scarcely need to dispute over the comparative efficacy of local applications, since we know that any effective germicide puts a stop to these catarrhs, if it is applied before the disease-process has penetrated below the surface—and invasions of the mucosa begins at the surfaces. Ordinarily an occasional 5-grain tablet of zinc sulphocarbolate, allowed to dissolve on the tongue, suffices for the need.

In the case of persons subject to periodic attacks of suppurative tonsillitis or to rheumatism, this writer usually recommends this prescription.

Potassium chlorate, pulverized, 1 dram; hydrochloric acid, U. S. P., 1 dram. Put the chlorate in a 4-ounce vial, add the acid, and as the vial fills with fumes of free chlorine add water in small portions enough to fill it, shaking after each portion of water added. This affords a strong fresh solution of free

chlorine, and it is the most effective local germicide while at the same time harmless.

If you write a prescription, instead of preparing it yourself, it will be well to direct the patient to take a swallow of water just before each dose—a teaspoonful every hour till well. Take no water with or after it. I may add that if the letters "U. S. P." are written after the hydrochloric acid, the druggist may be led to use the dilute acid; hence, it is better to write also, "full strength," and add an "O. K." and your initials, to make sure. The good fellow gets so accustomed to correcting the mistakes of careless prescribers, and putting in what the doctor "should have ordered," that he may be tempted to substitute the diluted acid unless you take extra care.

This chlorine-water is effective as long as it retains the greenish tinge (imparted by the chlorine gas); when it loses its color to any extent, throw it away.

It is an excellent household remedy in the conditions above mentioned, and when diphtheria is prevalent should be employed whenever there is any sign of throat affection. It was originally introduced by Greenough, in 1820, as a remedy for diphtheria. In this writer's hands, it has cut short many an attack when used early enough.

When the tonsillitis has penetrated the pharyngeal tissues and set up suppurative, there are at command innumerable remedies from which to choose. Quinsy-balls were globules of fused impure potassium nitrate. These were allowed to dissolve in the mouth and really possessed some efficacy, although difficult to explain. Mackenzie's guaiac lozenges, sodium salicylate, quinine, ammonium chloride, each possesses efficacy. Aulde urged the local application of nuclein solution.

However, the best, in this writer's experience, is quick saturation with calcium sulphide; a centigram every ten to thirty minutes, until the skin exhales the odor of the drug. As a matter of course, the alimentary canal must be cleared completely.

This by no means exhausts the list of modern remedies. Some use aconitine in small and rapidly repeated dosage. The homeopaths prize bryonia. The influence of atropine in drying the mucous secretions led to its use here, with asserted advantage. These agents have been combined in a tablet in association with that potent germicide, mercuric iodide; and this has received the praise of many practitioners. If extended use is any criterion, this is especially valuable.

One more remedy must be mentioned—one that has the sanction of many generations of domestic use, and the efficacy of which may not be questioned—namely, gargling, with salt water. Persons having chronic pharyngeal troubles may use it several times a day, with advantage. Salt is itself germicidal to an appreciable degree, and its influence over the affected mucosa is curative; not very powerful, but effective, if used when the first irritation is manifested. It is a useful part of the preventive system one should institute for those liable to such attacks.

The use of cold water, general cold baths, cold sponging of the neck and face, cold foot-baths followed by brisk rubbing, all aid in reducing that special liability to cold that furnishes the exciting cause, opens the door to the invading swarm, and lowers the vital resistance so that they can effect a lodgment.

"If I were a Voice," I should utilize it in an appeal to my readers to take all these tonsillar attacks as quickly as possible, and have an effective application in the hands of their patients for such prompt use as would prevent the development of the severer and more dangerous maladies.

Before all things a clinical teacher [yes, and every doctor] must be human and sympathetic, never forgetting that he is dealing with patients who have souls as well as bodies, and not with mere "cases."

—Sir Dyce Duckworth.

GROWING ABDOMINAL PLETHORA

A stout man, years under forty, passed a group of loafers at a corner. One of them remarked, "Just see that big Dutch beer-barrel!"

The man flushed, hesitated a moment, then turned and said: "I am not German, and I never tasted beer or any liquor in my life."

The fellow retorted, "Then take in your sign."

Not having any retort ready, the fat man walked on.

Abdominal plethora, as a symptom-groupage, recognizable as such and calling for treatment, came into popular recognition with Bartholow. Previous to the appearance of this author's book, the regular textbooks had confined themselves to discussions of diseases as based on anatomical structures, with little obvious connection with symptom-groupings. I well recollect one time, after intently studying a long technical description

of some "itis," how surprised I was to come upon a discussion as to whether that condition ever really happened. The conclusion, if I recollect aright, was, that it might possibly occur in the course of some acute infectious fever or as an extension of inflammation from some neighboring structure, but that there were no clinical features by which the malady could be recognized during the life of the patient. It reminded me of the ingenious political schemes evolved by some closet-workers which by no possible chance could be utilized by any set of human beings.

When Bartholow spoke of remedies as useful in treating abdominal plethora, we recognized at once the existence of a condition evidently abnormal, troublesome to the patient and amenable to treatment. Nevertheless, the clinical student will have to search his textbooks on Practice diligently before he finds a chapter devoted to this affection. Yet, it is a malady, and one for which people long for treatment. When any man, at any age, finds his equator expanding to or beyond fifty inches, he becomes sensitive thereto; and heartily welcomes the suggestion that there is balm in Gilead.

Just what, then, are the pathologic conditions?

They are, briefly, these: First, dilatation of the splanchnic venous trunks; then the deposit of fat about the abdomen, and lastly relaxation of the connective-tissue structures in the abdominal viscera and parietes. These three factors, therefore, represent the specific points for therapeutic attack.

Dilatation of the abdominal vessels is primarily due to the excessive use of fluids; beer acting not only through its water, but in inducing paresis of the vasoconstrictor nerves. Thus, rationally, we begin by restricting the intake of water, rigorously. Drinking is much a matter of habit. Iced drinks induce unquenchable thirst. Forbid all drinks, except to allow one cup of hot tea after each meal. Then we have a direct stimulant of the splanchnic vasoconstrictors in strychnine. This fact was discovered clinically in treating snake bites in Australia. In that country, the principal, and deadly, effect of the snake venom is paralysis of the splanchnic vasoconstrictors, in consequence of which these great venous trunks dilate, the blood collecting in them until the patient dies of cerebral anemia. Here, strychnine prevents death, if enough is given to neutralize the toxin--and this means doses much larger than would kill the patient were the drug's action not neutralized by the snake

venom. Applying this knowledge, we give our obese patient all the strychnine he can take with safety.

There is, and can be, but one way of reducing fat. Let the intake be less than the output. Weigh the food and drink taken, weigh the patient every day, and clip off an ounce or two from the daily ration until the scales show that an ounce or two is clipped off the patient's weight. If this is really followed out, you may calmly disregard all the elaborate dietary tables and let your patient eat whatever sorts of food he craves. But, he must eat the food dry, not wash it down with copious draughts of liquids.

For contracting connective tissue, we have a specific in berberine. This alkaloid is one of the most widely distributed in the plant-world, and it has given reputation to many as "medicinal" or "tonic." While not a toxic principle like strychnine, nevertheless, berberine is a remedy that must not be administered rashly. Given in scruple doses for enlarged spleen, the contraction of that organ induced by it has been so powerful as actually to result in fatal rupture.

Berberine is a slow remedy, and that is what we want in the condition in question. In reducing weight, it is unwise to take off more than from one to three pounds a week; and that gives berberine time to contract the abdomen as the fat is being reabsorbed. A pound a week is enough to take off. Give a grain of berberine a day, with 1-10 grain of strychnine, increasing to 1-5 grain if results justify; and rigidly insist upon weighing the food and drink, reducing it until the patient loses a pound a week.

There you have a rational, safe, easy, and sure means of trimming the unwieldy abdomen down to esthetic proportions.

The remedies invariably recommended for abdominal plethora are, active cathartics and intestinal antiseptics. However, these are not really remedies for any essential factor of the malady, but only for the constipation and fecal toxemia that almost always are concomitant. The latter certainly demand treatment, if present, but the disease may exist without them, although not without the three factors described as essential features.

Festina lente--take your time. Reforms carried through in a hurry fall down in a hurry. Dietetic habits--reforms--are always to be instituted carefully, giving the system time to adapt itself to changed conditions. Rashness courts disaster.

Leading Articles



Further Experience with Amebic Dysentery

By J. F. ROEMER, M. D., Waukegan, Illinois

EDITORIAL NOTE:—In the August, 1913, number of "Clinical Medicine," Doctor Roemer reported a case of amebic dysentery successfully treated with emetine hydrochloride. In the article which follows he gives the later history of this patient; also, the story of another patient treated with the drug, and recounted largely by the patient himself.

IN THE August number of CLINICAL MEDICINE I reported a case of amebic dysentery and a seeming cure effected with emetine. I wish to complete the history of that young man at this time and add another case; besides adding a word of praise for emetine.

The former patient was at Palestine, Texas, and when I closed that report he was on his way to Riviera (same state) down on the gulf coast, where it is very hot and sandy. At Riviera he stayed on a ranch for a month, and kept on improving. Then he went to visit a friend who was "haching" it and here he did not have the same diet. As a consequence, a relapse set in, or, as Lyons, of New Orleans, thinks, a fresh infection was contracted; whereupon the boy went back home to Palestine.

This was in August, last year. He began with having from twelve to twenty passages a day of bloody mucus mixed with fecal matter, and, learning of this relapse, I requested him to come to me here at Waukegan. Upon his arrival, September 10, I discovered a large ulcer in the sigmoid flexure, which gave rise to the bloody mucus. On September 17, 18, 19, respectively, I administered three hypodermic injections of 1 grain, 1 1-4 grains, and 1 1-2 grains and he began to mend at once. On October 6, 7, 8, I gave three hypodermics of 1 1-4 grains each, and his condition was very much better. October 15 and 16 I gave two hypodermics of 1 1-4 grains each, when all the trouble was gone, and he began to gain in strength and in weight. He has been going to work since November 1, is eating good, digestion perfect, sleeping good, looking well, and feeling

fine. His weight has gone back to 180 pounds (normal) and people who had never seen him before remark upon his fine appearance and ask, "Were you not sick when you came here?"

Advent of the Second Case

This cure brought me the second case, one of seven years' standing, a man who until then had been cared for by the regular navy ship-surgeon. I have let him report the history from the first until I took charge, and when he says "hospital," he means either on board ship or the navy hospital on shore, and when he "consults the doctor," it is the regular surgeon of the navy in charge for the day. To me it is interesting and instructive, and should likewise, it seems, help all of us to get a better hold of this scourge of amebic dysentery. This is the man's own statement:

"I first contracted the disease during the latter part of 1906, while serving in the United States Navy and doing service in the Philippines. I reported to the naval physician, who prescribed bismuth. This checked the stools somewhat, but not entirely. At this time, I was having not more than four or five stools per day, liquid in character, and no blood or mucus. Continued bismuth about a week and then was put to bed, given soft diet and saline irrigations every morning. This checked the disease, and in about a week I was returned to duty. Shortly after this I began having three, four, and five bowel movements per day, but did not go to the doctor. I felt somewhat tired all the time, but, aside from this and the inconvenience of going to the toilet so frequently, felt no

particular discomfort. There was no straining or griping, and no blood or mucus in the stools, which were nearly always liquid.

"I continued in this way for some three or four months before going to the doctor again. By this time I felt fatigued at all times, had lost ten pounds in weight and was weak. The doctor sent me to bed, put me on soft diet and resumed the treatment with bismuth and saline irrigations. Stools grew fewer in number almost immediately. After having been in bed four or five days I was given a dose of epsom salt every hour for six hours, when I passed eight worms, in shape and color not unlike ordinary angle- or fish-worms, but about twice as large; half an hour later I passed seven more. After this I continued in bed four or five days and then went back to work, feeling all right.

The Amebæ Are Discovered in the Stools

"I continued all right for about six months and regained weight. Then I began having more than the normal number of stools. I reported to the doctor, who again put me to bed, again on soft diet, together with bismuth and the saline irrigations. Examination of feces for amebæ was now made for the first time and their presence discovered. Under treatment, the stools became fewer in number shortly after going to bed. I continued in bed a week longer, then returned to duty.

"All this time I had been employed in work which required my standing on my feet from six to twelve hours each day. Now, however, I got work in an office, where I could sit down, which was much more agreeable, because during the latter attacks of dysentery standing had always been a hardship, causing a dragging, heavy feeling in the region of the lower intestine and anus. At this time, although I was having only one bowel movement per day, the saline irrigations were continued—two quarts of water every morning. I kept up the irrigations for about three months. The bowels continued regular, there were no signs of dysentery, and, so, I discontinued the irrigations.

"My condition continued normal for three or four months, when a feast of mangoes caused a relapse or else a reinfection of the disease. I did not report to the doctor for a month, by which time I was so weak and run down that medical attention became a necessity. I was so weak I could hardly walk, always tired, passed considerable blood and mucus, and was having from eight to ten stools per day. I was put to bed

and on soft diet as before, (no medicine or irrigations), which checked the number of stools. After a week in bed I felt much better and had only from two to four movements per day.

"I left the Philippines and returned to my home in South Dakota, arriving there November 24, 1908. I had been told by the doctors that the change in climate from the Philippines to the Dakotas would result in a cure. This, however, did not prove to be the case. The continual tired feeling did disappear to a large extent, but the bowel movements continued to be from four to eight per day, soft, and generally with blood and mucus in them. I consulted a civilian physician there, who recommended a diet consisting of broiled meats, coarse bread, very little vegetables, and no fruit except bananas. This diet did nothing toward relieving my condition.

Hospital Treatment Does no Good

"I went to Newport, Rhode Island, and continued for a year just about the same. Then I consulted a doctor, but while he was conducting daily microscopical fecal examinations to determine whether or not amebæ were present I was sent to Norfolk, Virginia. There I consulted another doctor, as by this time I was beginning to grow weak again. This doctor advised my going to the hospital, but this was not convenient for me at that time. I continued in this weakened condition, getting worse all the time, for two months. Then I started for the West Indies, but the second day out I had to go to bed. I remained in bed until my return to the States, two weeks later, and then went to the hospital. Treatment there: bed, soft diet, bismuth, tonic. Examination for amebæ negative.

"Bismuth tended to stop the bowels somewhat, but brought on severe frontal headaches; which were relieved by purges and irrigations. After two weeks in bed I was allowed to get up and was considered as slowly convalescing. The soft diet was the only treatment I received. I had from four to eight passages per day, and, as I had nothing at all to do, was not bothered by the feeling of fatigue which before had existed. In this way I continued for several months, at the end of which time I was virtually no better, no worse, than when I entered the hospital.

"Then I was put to bed in a private room and four nurses were assigned to me, one of whom was awake and with me at all times. I was given nothing to eat or drink except

4 ounces of milk every two hours during the day, and in addition had one extremity rubbed every hour with olive-oil. I was not allowed to move from the bed for any purpose whatever, was not allowed to sit up in bed, nor to smoke nor read. My wife was allowed to see me only three times a week, one hour each time. No one but my nurse was allowed in my room.

"This treatment effectively stopped the excessive bowel movements. The first day in there I had four, the second day one, the third day none, and none after that for seven days. On the night of the ninth day, in the room, I tried many times to pass a stool, but was unsuccessful, as the feces were too hard to allow passage.

A Fecal Mass Removed

"On the morning of the tenth day, I obtained a jar of vaseline and, greasing my fingers, determined to remove the fecal matter, if possible. After several attempts, I succeeded in working out a lump the size of my fist, which, for curiosity, I attempted to break into pieces. It was quite impossible to do so. The removal of this lump allowed more fecal matter to come down into the rectum, but it would not evacuate. I resorted to the same artificial means, however, and soon had passed three or four pounds and this was literally as hard as rocks. I at once felt much better and in about two hours passed a normal stool.

"After this I was given soft diet for a few days and then was given anything to eat that I asked for. Stools now were normal. A Wassermann test taken at this time was negative. I continued in the hospital some two weeks after this, getting better all the time and having perfectly normal stools. Then I was given a bottle of tonic to take and sent to duty. I continued in excellent health for one year, eating whatever I wanted and regaining some weight.

"At the end of one year I ate a great quantity of canteloupes one day and soon after began having a diarrhea. I continued having four to five soft stools per day. I tried dieting and irrigations with saline solution, which tended to check the stools to some extent. This continued so for six months. No particular ill effects were noticeable at this time, except perhaps a little weakness and the extreme inconvenience of being obliged to go to stool four, five and six times daily.

"I went to Norfolk, Virginia, in October, 1912. Shortly after arrival there bowel

movements increased and I felt tired all the time and had pains in the lower bowel with each movement; I would awaken in the morning just as tired as when I went to bed; could hardly manage to walk to and from work, a distance of half a mile, and invariably rested during the trip. A dose of castor-oil taken at night, during this period, would tend to lessen the bowel movements the following day or two.

"Every evening as soon as I arrived home I went immediately to bed and stayed there till time to go to work the following morning; all my Saturday afternoons and Sundays were spent in bed. Walking was agony and standing still was positive torture; while standing I felt as if my intestines were going to drop out and my rectum felt as if a heavy weight were suspended from it. Stools increased to ten to twelve per day. I passed quantities of blood and mucus, the blood invariably following the fecal matter, never preceding it, proving unquestionably the presence of an ulcer, and disproving the supposition that the blood could have come from piles, or hemorrhoids.

"I went to Annapolis, Maryland, and went to the hospital. Treatment: bed, soft diet, irrigations with two quarts of argyrol solution. The latter was made by putting 4 ounces of a 25-percent argyrol solution into 2 quarts of water. Irrigations were given before breakfast. In three days, bowel movements had decreased, from ten to twelve per day, to now two. After that for two weeks, I had only one movement per day. After one week in the hospital, I was given a tonic of iron, quinine, and strychnine. In two weeks after admittance to hospital, I was discharged, feeling fine and bowels in perfect order.

"One week later, I was back in exactly the same condition as before—same excessive number of stools, same feeling of lassitude, same blood and mucus.

Poor Health Continues in Spite of Treatment

"I returned to Norfolk, Virginia, a week later. Continued in same poor health. Went to Newport, Rhode Island, and to the hospital. Treatment there: liquid diet, bismuth. Result: severe frontal headaches. Bismuth discontinued; headaches relieved by soap and water irrigations and seidlitz powders. New treatment: 15 grains of ipecac three times a day for two days. Result: vomit after every dose. Ipecac discontinued. New treatment: bed, saline irrigations every morning, soft diet. Stools began to lessen in number. Tonic of iron, quinine, and strychnine.

nine. Examinations for amebæ negative.

"After a week in bed I was allowed to get up and walk around the ward. Two to three stools daily. Nothing to do but rest, and began to feel much better, but by no means robust. Continued in hospital two months, then came to Chicago, Illinois. I began having four to five stools daily. Consulted the Naval doctor; bismuth and liquid vaseline; headaches; bismuth discontinued. To bed for a week nothing but milk, dry toast and zwieback for nourishment; no medicine; no irrigations; no better.

"Then it was that I consulted Dr. J. F. Roemer, of Waukegan, Illinois, which was on December 6, 1913."

The patient's story ends at this point, when he first came under my care. I at once ordered a fresh supply of emetine hydrochloride, and when it came to hand, December 8, I gave the patient a generous supply of the 1-8-grain tablets, with instructions to take one every four hours, four times a day; telling him to eat anything and everything he liked. I also ordered 1 dozen ampules of emetine, 1-2 grain each, for hypodermic use.

First injection, December 13: no nausea.

Second injection, December 14: no nausea.

After that I gave an injection every four days until I had given eight in all, or a total of 4 grains of the drug.

The result was surprising. In six days there was no more blood or mucus in the passages, in ten days he had only one stool each day, and in two weeks the stools began to take form, and I believe I could have stopped then with the treatment. But both the patient and his wife said he had been cured so often, only to relapse, that he would rather take more of the remedy and risk taking too much, rather than take not enough

and have to do it all over again. By Christmas, the stools were formed, solid, and the patient was feeling fine.

He had told no one of what he was doing, for several reasons, but soon his fellow workers were saying, "Why! W., what are you doing? You are looking *so* much better."

At Christmas he went home on a week's visit. He ate everything, and when he came back he met one of the surgeons who had treated him in November, and his first salutation (January 3) was: "Why, boy, what you been doin'? You look so much better." The noncommittal reply was: "Oh, just took a trip to the country and got some fresh air."

To the patient and myself, what has been the most gratifying is, that his color is coming back and tone to all the muscles, the ability to eat and sleep, and the fact that the improvement was so marked that those who did not know he was being treated could, and did, notice the change and commented on it. All this was the very best of evidence that he was being helped.

Examination showed an ulcer as big as a half-dollar coin in the middle of sigmoid flexure, from which the mucus came.

[Since the preceding was put in type, Doctor Roemer has reported another recurrence in case one. The patient is again on the emetine treatment and is improving. The possibility of such recurrences suggests the advisability of repeating the course of injections at occasional intervals, in order to forestall and prevent recurrence; also the desirability of colonic irrigation with quinine or silver-nitrate solutions, to kill any remaining amebæ, thereby preventing reinfection.—Ed.]

THE ACID TEST

BY STRICKLAND GILLILAN

When you've written something clever
(From that standard of your own)
Quite the brightest thing that ever
To the waiting world was thrown,
Just reserve your biased judgment
For a moment. Like as not
When you've read it to some person
You will change the thing a lot.

Go and read it to a "bonehead"
Who is stupid as an owl;
Some much-thicker-than-your-own head;
Then, when you expect a howl
Of approval, far more likely
He'll be puzzled o'er the plot.
When you've read it to some person
You will change the thing a lot.

Like as not, while you are reading,
It will seem less clear to you
Than when you, the rest unheeding,
Made it clear as skies of blue
To yourself who knew beforehand
Its full import, to a dot.
Just you read it to somebody,
And you'll fix it up a lot!

Preserving Pathological Specimens

The Description of a Simple Method

By C. F. LYNCH, M. D., Terre Haute, Indiana

WHILE visiting one of the large medical colleges in the city of Philadelphia last summer I was much impressed by the remark of the head of the pathological department that he was sorely pressed for room where to store his museum specimens; and anyone who has had any experience in managing a pathological laboratory knows with what rapidity these preparations, preserved by the customary methods and in various-sized jars, take up space and necessitate frequent enlargements of the room allotted.

Furthermore, those who have used specimens of this kind for teaching purposes know how inconvenient and unsatisfactory are the results obtained with the use of these large jars for demonstration purposes. Indeed, unsatisfactory, and bunglesome is such demonstration that comparatively few exhibitions are made, and, as a result, these specimens, laboriously and expensively provided are of little practical value except as an impressive display to prospective students and casual visitors.

Now, however, Dr. Enos Day, of the United States government pathological laboratory at Chicago, has worked out an improved method of mounting pathological museum specimens which in many ways promises to overcome the objectionable features of the older methods, while at the same time providing specimens convenient to handle for classroom demonstrations.

Briefly, Doctor Day's method consists in mounting the pathological tissues, under large-sized watch-glasses, in the familiar Kaiserling solutions and cementing the cover-glasses to a plate-glass base by means of asphaltum. This method was described by Doctor Day to the members of the American Veterinary Association at their last meeting in New York in September of last year, and since that time I have had opportunity to try it out in my own work and find it so highly satisfactory that I feel justified in presenting it to the readers of *CLINICAL MEDICINE*.

The process is so exceedingly simple that any general practitioner who may desire to preserve some of his unusual specimens, but who has been deterred from doing so by the unwieldy appearance of specimens preserved by the usual methods, can adopt it. By

means of this improved procedure it is possible for any physician or hospital interne to put up a large number of specimens that can be filed away in a very small space, while at all times they are convenient for display or demonstration purposes.

The Substitute for Glass Jars

The watchglasses chosen for this work should be sufficiently large to admit specimens of average size. I have found those of 5- and 6-inch diameter the most practical, although those measuring but 4 inches prove convenient for smaller specimens, for example, appendix, ovary, and lymph-glands. These glasses can be obtained from any chemical-supply house and are very reasonable in price, running from \$1 per dozen for the 4-inch size to about \$3 per dozen for the larger ones. By some houses glasses measuring as much as 8 inches in diameter are supplied; still, for most work the 6-inch glass will be found sufficiently large.

Plateglass bases can be cut at any local hardware store or else be secured from the same source as the watchglasses. These plateglass squares should be about two inches larger than the cover glasses. That is to say, for a 4-inch watchglass, for instance, a 6-inch plateglass base should be employed; for a 6-inch watchglass, an 8-inch plateglass, and so on.

As received from the supply houses, the watchglasses usually have a rounded edge, and, consequently, this must be ground down perfectly flat and level. This can readily be done by sprinkling emery dust on a piece of plain plateglass, moistening with water (or preferably with oil) so as to make an easy-working paste, and then grinding the watchglass steadily and evenly until its edge is absolutely level and the face of the ground surface equals the thickness of the glass. When this is accomplished (which takes only about five minutes), the meniscus will adhere so tightly to the surface of the plateglass as to be water-tight. When large numbers of these glasses are required, then by a little ingenuity a grinding-plate can be devised that may be revolved by means of hand-power or an electric motor. When the grinding is completed all the watchglasses and plateglass

bases should be thoroughly cleaned, dried, and stored away ready for use.

The Necessary Solutions, And How Used

The immersion fluids for preparing the specimens are what are known as the Kaiserling solutions, of which there are two, number 1 being that for fixing purposes and number 2 for final preservation. These two fluids possess a decided advantage over all others in use, in that they not only fix and preserve the tissues, but in addition maintain their natural colors. This is largely due to the presence of nitrate and acetate of potassium, the first of which has long been in use for pickling meats.

While the formulas for these fluids may be found in many recent works on pathology, I will reproduce them here.

Kaiserling Fluid No. 1 (Fixing)

Potassium nitrate	Gm.	15
Potassium acetate	Gm.	30
Formalin	Cc.	200
Water	Cc.	1000

Kaiserling Fluid No. 2 (Preserving)

Potassium acetate	Gm.	100
Glycerine	Gm.	200
Water	Cc.	1000

The method of handling the tissues is very simple. To begin with, the fresh specimen is carefully washed in water for a few minutes, to remove all blood, dirt, and other extraneous matter, then is placed in a jar or other vessel of sufficient size and covered with the No. 1 fluid. After twenty-four hours the fluid is poured off and replaced by a fresh supply, and this may be left on for from one day to one week, depending upon the size of the specimen; small ones hardening in a few hours, while larger ones require more time. It is well to fasten the specimen to some flat object, such as a piece of glass or wood, before immersing it in the fluid, in order to prevent shriveling and the assuming of undesirable shapes.

After being thoroughly hardened, the tissues are removed from the No. 1 fluid, washed in water for a few minutes and then treated with alcohol of successively greater strengths. Beginning with alcohol of 20 percent, the specimen is covered with this for one or two hours; then it is taken out and covered with 50 percent alcohol for one to two hours more; then proceed the same way with 80 percent alcohol for the same length of time; and, finally, immerse in 95-percent alcohol for only one hour. However, I find I get nearly equally good results by transferring the specimen direct from fluid No. 1 into

80-percent alcohol, leaving there from one to six hours, and then soaking in 95-percent alcohol for one to two hours. Doctor Day uses first 60-percent and then 95-percent alcohol.

The object of these alcohol baths is, to restore the color which has partially faded out in the No. 1 solution, and the specimens must be watched in this step, for if left too long in the alcohol the color, after having been fully restored, begins to disappear again.

From the alcohol, the specimen is transferred to solution No. 2, where it is allowed to remain for a day or two; it then is ready for mounting.

The Process of Mounting

After the specimen has been trimmed to make it fit the watchglass, it is placed in position in the glass and the plateglass base put on, leaving a small margin of the watchglass protruding beyond one of the margins. Through the lip thus formed, the preserving fluid (to which phenol may be added up to 1 percent) is poured until the watchglass is completely filled. By a quick motion, the watchglass is now pulled over toward the center of the plateglass, whereby all air is excluded. The fluid should be poured in to the point of overflowing, so as to exclude air as completely as possible.

The contrivance is now stood up on edge and allowed to remain for a few hours, in order that any air bubbles present may have a chance to rise to the top. When ready, this accumulated air is removed by sliding the meniscus to the edge of the plateglass and adding more fluid to force out the air. This procedure is repeated as often as any air continues to collect.

If the watchglasses are properly ground, they will adhere so firmly to the plateglass that there will be no danger in placing them in the perpendicular position, no fluid escaping, nor will the glass drop off.

After the air has all been removed, the watchglass is cemented to the plateglass base by means of asphaltum. The asphaltum is heated, in a suitable vessel, over a Bunsen flame until it is about 250° F. and then applied quite liberally around the joint, allowing it to extend about half an inch up the watchglass and the same on the base. Before applying the asphaltum, the glass must be dried and all dirt and grease that may have accumulated during the process of mounting carefully removed.

After the asphaltum has dried, the mounts may be enhanced in appearance by enclosing

them in suitable cardboard cases and finishing with leatherette bindings. However, for museum purposes and class-room demonstrations this hardly is necessary.

Doctor Day in his work subjects the tissues to reduced pressure, equal to about 26 mm. of mercury, for one-half to one hour before mounting, in order to remove any remaining alcohol, thus preventing after-fading of the specimens. In laboratories this treatment is feasible; however, for the general practitioner this is inconvenient and may well be dispensed with, the results being reasonably good.

All pathological specimens tend to fade, in even the Kaiserling solution if exposed to light and sunshine, and, so, this work should

be carried on in a room somewhat darkened and the specimens be stored in a dark place.

While, as already stated, the use of the Kaiserling fluids is well known to all workers in pathology, to Doctor Day belongs the credit of developing this improved method of mounting. As for this contribution, I feel certain that there are many of the readers of *CLINICAL MEDICINE* who have often felt the need of a convenient, inexpensive, and neat method of preserving their pathological tissues. The method here described is pre-eminently suited to the busy practitioner and is so simple that one can not fail with it. The chemical agents involved are inexpensive, the solutions are easily prepared, and the entire expense is trifling.

Urethral Syphilitic Infection

With the Report of a Case

By WILLIAM J. ROBINSON, M. D., New York City

Chief of the Department of Genitourinary Diseases and Dermatology, Bronx Hospital and Dispensary; Editor, "*American Journal of Urology*," and "*Critic and Guide*;" Author of "*Treatment of Sexual Impotence and Other Disorders*," "*Never-Told Tales*," etc.

THE writer has, on several occasions, called the attention of the profession to the fact that an initial specific lesion—a hard chancre—in the urethral canal is much more frequent than is commonly supposed, that its presence is often overlooked, that either no diagnosis is made or it is maldiagnosed as gonorrhea, and that this failure to diagnose correctly and promptly often leads, as is but natural, to disastrous results.

The following case is worth reporting, for more than one reason.

X. X., thirty-five years old, druggist by profession, single; has been leading a rather loose life, indulging excessively and promiscuously. Had his first gonorrhea at the age of seventeen, and since then has had more relapses or fresh attacks than he can remember—probably fifteen or twenty. However, he ceased to pay much attention to them, as he had learned to "cure" his gonorrhea quickly without any physician's aid. At the first appearance of a discharge, he would take some santal-oil capsules, use an injection of potassium permanganate, "finish up" with zinc sulphate—and in two or three weeks he would be well. Only in the more obstinate attacks he would consult one or another of the physician friends who were in the habit of visiting his drugstore, getting their supplies from him (more or less complimentary) or play-

ing a game of cards in the store backroom—the so-called laboratory—and who never charged him for advice or treatment. He said this with some pride.

Ignorant And Mistaken Treatment

On January 13 of last year he began to notice some difficulty in urination; he felt as if the stream had to pass some obstacle. Two or three days later there was also some burning upon urination, which sensation gradually increased. A rather profuse discharge also made its appearance. He at once began to use potassium permanganate injections, and, although the injection was very painful, he persisted. There was no diminution in the discharge; large doses of oil of santal, however, diminished the *ardor urinae* and made the act of micturition tolerable. He also tried copaiba and cubebs.

In about two weeks, he consulted one of his general-practitioner friends, who looked at his urethra and prescribed an argyrol injection. The result was *nil*, and he consulted another physician. For six weeks he kept on using different antibleorrhagics and injections for his gonorrhea, but the condition was not only not improving, but was getting worse. His urinary stream was getting smaller and smaller. He consulted yet another physician. This one attempted to pass

a sound (which caused severe pain and hemorrhage), declared he had a stricture, and with that dismissed him.

The patient thereupon came to me. I listened to his history, looked at his body, felt his urethra, his axillary, inguinal and cubital glands, and told him—not over gently—that it was not gonorrhea for which he needed treatment, but syphilis. He might or might not also be suffering from a gonorrheal urethritis, but about his being the victim of syphilis in an active stage, perhaps in a virulent form, there could be no question.

The rash on the man's body was unmistakable. I called his attention to it, and asked him whether this did not make him or his physician suspicious. No, he always suffered from pimples (acne); he did speak about it to one of the doctors, but the latter said that the eruption was probably due to the *cobaiba*, *cubebs*, and *santal-oil* that he was taking.

The Symptoms Characteristic

Naturally, the man objected to the diagnosis of syphilis and truculently asked whether it was not possible that I was mistaken. I told him that I was not in the habit of declaring emphatically that a patient was suffering from syphilis unless the diagnosis was absolutely certain; if there were one chance in a hundred of a mistake, I should say "*Probably syphilis*." But in his instance there was no room for doubt.

Further examination disclosed extensive condylomata lata and acuminata (which the patient had taken for piles), besides numberless mucous patches in the mouth, the pharynx, and on the tonsils. He was aware, he said, that his throat was sore, but, as he had frequently suffered, in the winter particularly, from sore throat, he paid no attention to it. The patient was an excessive smoker and, not knowing the nature of his trouble, he went on smoking in spite of his mucous patches. The axillary glands were considerably enlarged, but the inguinal glands were only slightly swollen. The lack of inguinal adenopathy is a phenomenon which we observe not infrequently in chancre situated *within* the urethra.

I told the patient that he was a danger to everybody with whom he came in contact, to every customer, to his relatives, to the community at large, and that he must at once subject himself to vigorous and persistent treatment; that his uvula was ulcerated and was in danger of dropping off unless vigorous treatment was instituted immediately.

Even after these emphatic declarations the patient was not quite convinced. The mind refuses as long as possible to believe things which are painful. He asked me whether I would make a Wassermann test, just to make sure. I said emphatically, No. To institute a Wassermann test would mean that I was not absolutely certain of my diagnosis, and this was not the case in his instance.

The man then went to another physician, who had a Wassermann test made, and only when that resulted positive (+++++) did he return for treatment. And he was a very meek patient then. His uvula in the meantime had ulcerated through on one side, and, as it interfered with his speech and swallowing, I clipped it off.

Treatment

I started at once active treatment: gave him a full dose of salvarsan, followed by injections of mercury every other day. There seemed to be indications of softening of the hard palate, and, as I feared ulceration, I gave the mercury (alternating the salicylate, oxycyanide, and salicyl-arsinate; for I believe that in desperate cases we get better results by frequently changing the salt of mercury) in maximum doses. The throat and mouth were sprayed with a 1:5000 mercuric-chloride solution, and, besides, antiseptic formaldehyde-generating tablets were ordered to be slowly dissolved every hour. For the condylomata, a powder of equal parts of resorcinol and calomel was prescribed (a remarkably efficient application in all venereal warts), as follows:

Resorcinol	drs. 2
Hydrargyri chloridi mitis	drs. 2
Misce et fiat pulvis subtilis.		Signa: Apply externally.

For the urethra, I ordered suppositories of unguentum hydrargyri (0.05) and oleum theobromatis (0.8) as shown:

Unguenti hydrargyri U. S. P.	Gm. 0.05
Olei theobromatis	Gm. 0.8
Misce et fiat suppositorium urethrale	No. 1.
Dentur tales doses	No. XII. Signa: Insert one three times a day.

The effect of the treatment was immediate. I have often said, if the results of treatment were as prompt, as positive, as clearly apparent in other diseases as they are in syphilis, we should have no therapeutic nihilists, the antidrug quacks would not be deluding the ignorant and noncritical public with their false and sophisticated statements, and doctors would not form the subject of satire in humorous and would-be humorous magazines. The patient is, of course, still under treat-

ment, but his Wassermann reaction, taken every month, shows + , - , or \pm = .

The fact that a chancre may occur within the urethra should be strongly impressed upon the physician's mind. It would save

him humiliating and dangerous errors; it would save the patient valuable time. One month saved in the beginning means the saving of a year afterward.

12 Mt. Morris Pk. W.

Refraction for the General Practitioner*

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois

Professor of Neurology, Chicago College of Medicine and Surgery; Author of "Essentials of Refraction"

THE eye is a compound spherical instrument, formed of the segments of two hollow spheres, the smaller and more convex of which is fitted into the larger and less convex, as a crystal is set into a watch-case. The larger segment is called the sclera; the smaller, the cornea. Only the latter takes any part in refracting the light which enters the eye.

The iris, which hangs between the anterior and posterior chambers, performs precisely the same office as the shutter of a camera; that is, it regulates, by its contraction and relaxation, the amount of light that enters the eye and falls upon the retina; thus determining the intensity and the clearness of the image. The crystalline lens is a double-convex lens, the posterior surface of which is more convex than its anterior, giving it the effect of convex refraction; thereby helping to bring the rays of light to a focus on the retina. Under accommodation, as we shall see presently, the lens becomes still more convex, and, so, increases its refractive power.

The humors of the eye—the aqueous and the vitreous—being slightly denser than air, assist in determining the degree of refraction, i. e., of bending toward the perpendicular, which the rays of light undergo upon entering the cornea and upon entering and emerging from the lens. The ciliary muscle, by its contraction, causes the lens to alter its shape and present a more convex surface to the light-rays, and thus increase the refractive power of the eye. We shall have more to say upon this point under "Accommodation."

The Role of the Retina

The retina plays the part of the sensitive plate of the camera. The focused rays of light, falling upon the sensitive nerve-endings in the retina, stimulate the rods and cones in

such a fashion that the net effect upon the brain is the recognition of an image. Since this plane of focusing is beyond the spherical center of the refracting system, the principal rays (which are radii of that system) have crossed by the time the incidental rays are focused; hence, the image is always a crossed one.

The yellow spot is a small vascular area, in the optical center of the retina, which is the center of the eye's focussing system. In the center of the yellow spot is still another spot, called the fovea centralis, which is the most sensitive point in the yellow spot. It is the yellow spot that is directed toward an object when we fix our vision upon it. In fact, it is only the part of the visual image which falls upon this yellow spot of which the mind is deliberately conscious.

There is a slight protuberance upon the retina, about an eighth of an inch to the inner side of the yellow spot, which marks the place where the optic nerve enters the retina. It is devoid of sensibility, and, therefore, is known as the blind spot. Technically, it is called the disc.

The Axes of the Eye

For optical purposes, we draw certain imaginary lines through the eyeball in various directions, which are known as axes of the eye. Those of greatest importance from a refractive standpoint are the horizontal axes. Since, as I have said, the eye consists of two segments of different-sized spheres, there are, of course, two spherical systems for which to estimate these axes; but, as the horizontal axes of the two systems coincide, they are regarded as identical, and together they form the principal axis of the refractive system. Various points along this principal axis correspond to certain optical measurements and are the cardinal points of the eye.

There really are six of these cardinal points—three for each system—but we average their respective distances and regard them as

*The illustrations used in this article are taken from Doctor Atkinson's "Essentials of Refraction," published by G. P. Engelhard & Co., Chicago. This excellent little book should be in the hands of every person interested in work of this kind. Price \$1.25.

only three: (1) *the principal point*, situated 2 mm. behind the cornea, which marks the mean refractive curvature of the cornea; (2) *the nodal point*, about 7 mm. behind the cornea,

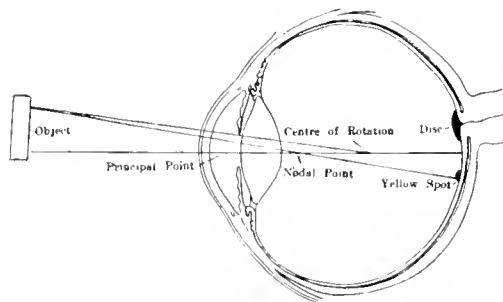


Fig. 1. Showing the principal points of the eye.

which is the spherical center of the refracting system, where all the refracted rays meet and cross; and (3) *the principal focal point*, where the axis cuts the retina, and where, in the normal eye, the incidental rays are reunited or focused on their principal rays.

Rays passing through the nodal point are all "rays of direction," which enter the cornea at right angles to its surface and are not refracted. The situation of the nodal point about 7 mm. behind the cornea holds good only for normal eyes. In eyes whose refraction is abnormal, the point is further forward or further back, as the case may be.

The Optical Axis

There remains one other axis to be mentioned, namely, the optical axis, an imaginary

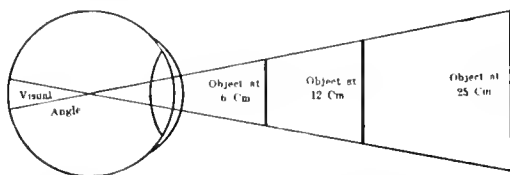


Fig. 2. Illustrating the necessity for a larger dimension of the object the farther away it is, in order to conform to the visual angle.

line drawn through the center of the cornea and the nodal point and cutting the retina just to the inner side of the yellow spot. It is practically identical with the principal axis.

The visual axis is not really an axis of the eye at all, but a movable axis of vision. It is an imaginary line, drawn from the object looked at, through the nodal point, falling, in a normal eye, on the yellow spot. The visual angle is one made by two lines, drawn from the extreme boundaries of the object looked at, through the nodal point. The

minimum size of this angle is 5 minutes. That is to say, two luminous points separated by an angle of less than 5 minutes are perceived by the brain as only one luminous point. This minimal visual angle is made use of, as we presently shall see, in measuring refraction. Another angle of importance in refraction is the angle made by the optic and the visual axes at the nodal point, which is called the angle alpha.

Accommodation

When none of its accommodation is in force, the eye is said to be at rest, and, in a normal eye at rest, parallel rays, that is, those which originate 6 meters or more away, are exactly focused upon the retina, so that objects at 6 meters' distance or more, so far as refraction is concerned, are clearly seen. It is apparent that under the same conditions,

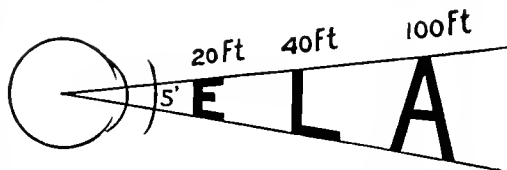


Fig. 3. Illustrates the construction of the test type to conform to the visual angle at a given distance. This angle must not be less than $1''$.

divergent rays, or rays originating from a point within 6 meters, do not focus upon the retina, but are carried beyond and focus behind it. Hence, objects at less than 6 meters' distance are not clearly seen by the eye at rest.

To enable the eye to focus such divergent rays upon the retina and to see near objects clearly, an increase in the refractive power of the eye is effected by means of a change in the shape of the lens, brought about by a contraction of the ciliary muscle.

There are two theories as to just what are the detailed steps by which this change is brought about. The Helmholtz theory holds that the contracted ciliary muscle draws forward the choroid, freeing the suspensory ligament of the lens, and allowing the lens to assume passively a more convex shape.

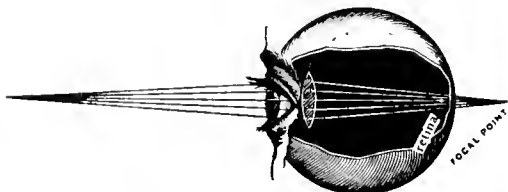


Fig. 4. Illustrates how divergent (finite) rays entering the normal eye at rest are focused back of the retina.

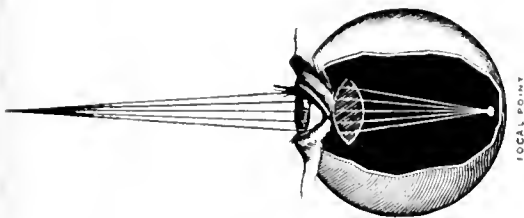


Fig. 5. Illustrates how the eye accommodates itself to focus divergent rays on the retina. Note the increased convexity of the lens (produced by contraction of the ciliary muscle).

Tschirning's theory asserts that the ciliary actually compresses the lens into a more convex form.

Whichever of these theories be correct, it is certain that the contraction of the ciliary does make the lens more convex and thus increases the dioptrism of the eye. And this is known as accommodation.

The Far Point and the Near Point

The point from which rays of light will focus upon the retina of an eye at rest is called its far point. In the normal eye, this point is infinity, or, 6 meters and beyond. The nearest point from which rays will focus upon the retina of an eye whose ciliary muscle is exerted to its fullest extent is called its near point. This point, in normal eyes, averages about 25 cm. The distance between the near and the far point is called the eye's range of accommodation, and the muscular and nervous energy required to change the eye from its far to its near vision is called its amplitude of accommodation. The amount of accommodation which one eye can exert when the other is excluded from vision is called absolute accommodation; the amount possible to both eyes together is called binocular accommodation. The latter is a little more than the former.

What the Convex Lens Does

If we hold before an eye, when it is accommodating for its near point, a convex, or plus lens, the accommodative effort of the eye will be spared to that extent. It is evident,

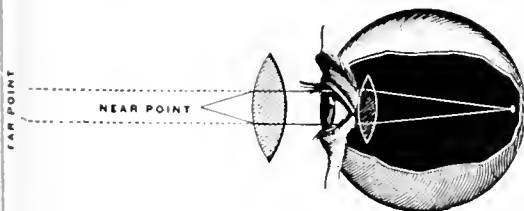


Fig. 6. Illustrating how a convex lens, which renders rays from the near point equivalent to those from the far point, focusing them on the retina, is the measure of the accommodation of the eye.

therefore, that we could find a plus-lens that would spare the eye all of its effort, taking the place of the accommodation and making rays of light from the near point as if they came from the far point. Such a lens would be the measure of the amplitude of accommodation; and this, in fact, is the way in which amplitude of accommodation is expressed. Conversely, the distance of the eye from its near point is the focal length of the convex lens whose dioptric strength corresponds to the amplitude of accommodation.

The amplitude of accommodation in the normal eye decreases as age advances, because the capsule of the lens becomes less and less elastic, until finally, if the person live long enough, the power of accommodation becomes *nil*.

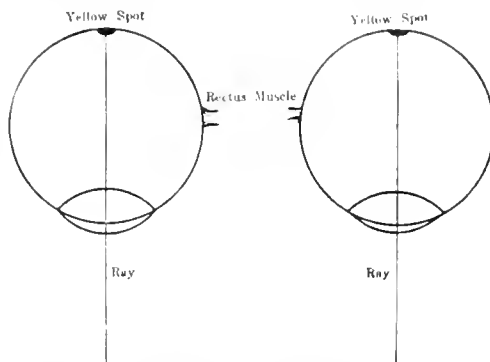


Fig. 7. Illustrates how the eyes at rest have their yellow spots adjusted for parallel rays and need no convergence.

Following are the average amplitudes of accommodation, expressed in dioptrism, at various ages:

10 years.....	14 D
15 years.....	12 D
20 years.....	10 D
30 years.....	7 D
40 years.....	4.5 D
50 years.....	2.5 D
60 years.....	1 D
75 years.....	0

Convergence

Not only is it necessary for *clear* vision that the rays should be focused exactly upon the retina, but, for *single* vision, that the central rays from the object looked at should fall exactly upon the yellow spot in each eye. When the object is at infinity, that is, 6 meters or further, the rays are parallel; hence, the visual axes (see above) are properly adjusted to receive the rays when they look straight ahead, in other words, when the visual axes are parallel. But when the object is within infinity and the rays are divergent, then it is necessary to turn the yellow spots inward, so that these divergent rays

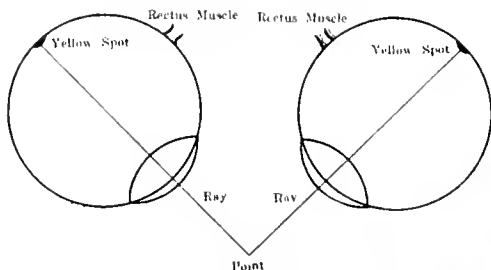


Fig. 8. Illustrates the pulling of the eyes inward (convergence) by the internal recti to direct the yellow spots toward the same near point.

may fall upon them symmetrically. This is accomplished by pulling the eyeballs inward by means of the internal recti muscles.

The angular extent of adduction and abduction capable of accomplishment by the internal and external recti, respectively, is called the range of convergence. The former is called positive convergence; the latter, negative convergence. The farthest and nearest points to which the visual axes can be directed are called, respectively, the far and the near points of convergence.

What the Prism Does

According to the laws of refraction already laid down, the optical effect of a prism is, to bend rays of light toward its base, both on entering and on emerging. Hence, a prism, placed before the eye, will bend the rays of light and focus them either to the inside or the

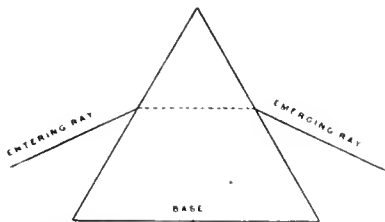


Fig. 9. Illustrates how a ray is bent toward the base both on entering and on emerging from a prism.

outside of the yellow spot, according as their bases are in or out. In order to overcome this, the eyes will have to be pulled inward or outward, as the case may be.

Prisms are numbered according to their prismatic angle, and amplitude of convergence is measured by the strongest prismatic angle with which single vision can be maintained. But it must, of course, be remembered that the actual degree of convergence performed is equal to only half the angular strength of the prism; and, since both pairs of ocular muscles always act in unison, it is divided between the two eyes. A prism of 8 degrees, therefore, produces a deviation

of 4 degrees; and of this each eye will overcome 2 degrees.

Positive (inward) convergence is measured by prisms "base out." The normal eye can overcome a total positive prismatic angle of 20 to 30 degrees. Negative (outward) con-

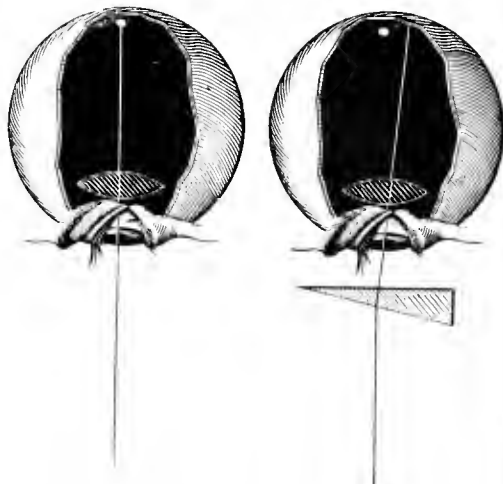


Fig. 10. Illustrates how a prism, base out, focuses a ray on the outer side of a yellow spot.

vergence is measured by prisms "base in." The normal negative capacity is from 6 to 8 degrees.

Accommodation and convergence are, in reality, two separate and distinct functions, and one may be paralyzed without impairing the other. Normally, however, one stimulates the other, and they increase and decrease in a mutual ratio.

A system of measurement of convergence has been devised to express this ratio. Thus, when accommodation is exerted for a distance of 1 meter, the amount of accommodation in force is 1 D., and the degree of convergence, expressed in terms of a metric angle, is 1. For 2 meters' distance, accommodation is

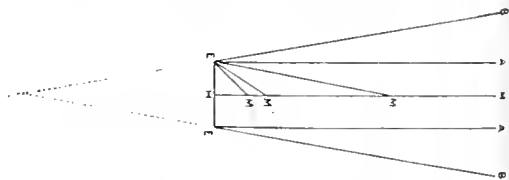


Fig. 11. Illustrates the metric angle made by various visual axes, M'E, M''E, M'''E, with the central line M H. Note that the parallel lines A E, A' E' (eye at rest) make no angle at all, while B E, B' E' (eyes divergent) make negative angles. E C H and E' C' H which are measured by prolonging the central line and axes to meet behind the eye at C.

0.50 D., and convergence is 0.50. This mutual relation is of enormous importance in the practice of refraction, and, so, should be thoroughly understood.

(To be continued.)

Domestic Medicine in Korea

With Its Superstition and Magic

By NEWTON H. BOWMAN, M. D., Seoul, Korea

IN THIS quiet, quaint "land of the morning calm," far removed from western civilization, where one loses sight of modern habiliments and where everything and all things suggest the past, many tragedies are practiced in the name of that form of the art of healing which, in the absence of a better designation, I have called domestic medicine, in contradistinction from that practiced by native Korean doctors, a description of which has appeared in these columns under the title of "Korean Medicine and Surgery."

It is not altogether an easy matter to differentiate between the practices of the people of this country at large and those of the native doctors, but that there is a difference is an unquestionable fact. Such knowledge as the people possess of drugs and so-called remedies is based largely upon traditional superstitious beliefs that never were recorded in books, but which have been handed down from generation to generation.

These superstitious beliefs, when viewed as a whole, represent a kind of religious ritual composed of the merest trilling product of a superstitious imagination of the centuries past, out of which has grown much of the magic art practiced by the Korean people in the treatment of their sick. Therefore medicine and heathen worship have largely become indissolubly joined as applied to disease.

The Supposed Causes of Disease

The Korean believes that there is a spirit for everything, both animate and inanimate, possessed of loves and hates, hopes and fears, passions of every kind like to his own; that there are spirits of good intent and spirits of evil, who bring into his life health and prosperity, sickness and pain, or whatever good or bad, as the case may be. And this belief naturally led to the custom of employing certain ceremonial rites (devil-worship) embodying charms and incantations, conducted by a "mudang" or a "p'ansu," men recognized by the ignorant heathen population as being the official mediators between evil spirits that cause disease and their victims.

These spirits are supposed to have been incarnated in the form of people (ancestors) at some former time, but have since been disembodied by death. They inhabit the trees,

the rocks, the lakes, the rivers, the mountains, and in their wanderings in quest of a more congenial abode they have become the proverbial "hungry spirits" of Korea. They are like the disfranchized atom of nature, ever seeking a bond of union in an affinity, the preference being in the rehabilitation of a living human being, which if effected may, by causing disease, prove disastrous to the individual entertaining the host.

The Korean hears their wail in the sigh of the wind, the hoot of the owl, the crow of the cock, the howl of the dog, and he predicts an omen of good or of evil by the flight of birds, or he sees the spirits' vengeance manifested in an epileptic fit, apoplexy, insanity, erysipelas, typhoid fever, cholera, tuberculosis, leprosy, smallpox, scarlet-fever, blindness, and in a score of other afflictions.

Knowing nothing whatever of anatomy, physiology, bacteriology or pathology and believing the body to be a half-apprehended possession, Koreans have come to regard all disease as an expression of spirit invasion, and have, during the passing centuries, formulated certain practices that by the succeeding generations have been incorporated into the various customs of spirit-worship (devil-worship).

In evidence of this belief, we note the custom of feeding the "hungry spirits" at meal-time by throwing out bits of food, as an act of propitiation, else these "hungry spirits" may become offended and cause disease. Then, again, there is the custom of sacrificing food after the death of any person, at the same time requesting the spirits (every man is supposed to possess three) to go on their way and not cause further disease in the household. Then, for fear the spirits of the departed will return, for the purpose of causing disease, food is sacrificed at various intervals throughout the year, or a peculiar ceremony is conducted for the purpose of preventing disease or as a means of treatment.

There is much that could be said, and perhaps should be said, to emphasize the fact that these beliefs and prevailing customs of spirit-worship (devil-worship) now existing in Korea are largely based upon the history of infection—to the Korean unknown, but, still, observed; but, in the light of his interpreta-

tion of disease from such mysterious causes, how else could he protect himself but to meet mystery with mystery? Therefore the mysterious cures and offerings to the spirits.

The Witch and the Wizard

What we call witch and wizard are known in Korea as "mudang" and "p'ansu." These personages, a woman and a man respectively, embody in themselves every principle of heathenism, superstition, and magic art known to these people.

The witch, so it is told, acquires her powers of mediation with the spirits during some long-continued siege of illness or, as she would have you believe, by dying and having been restored by the spirits of life, health, and prosperity. Her powers are regarded as being of a persuasive nature, for "she hath a winning way" and a "familiar spirit."

The wizard, on his part, is hopelessly blind (which is a prerequisite), and his powers are of the masterly type. He commands, and the spirits are supposed to obey; if they do not, he may reprimand or punish them with his long walking-stick by whipping the air, ground or side of the house, according to the location of the spirits.

These two characters are to spirit-worship (devil-worship) what priests are to other forms of religion or what doctors are to disease; but they have no temples, monasteries or hospitals, and are content with fetishes and shrines, which are numerous throughout Korea.

The services of these mediators are employed for different purposes, such as evoking the blessings of the kindly disposed spirits, predicting omens of good or evil, for lucky days, at places for feasts, at marriages and funerals, as well as for counsel and advice in the various affairs of life or for the purpose of conducting some ceremony for the prevention or the relief of disease.

In moderately mild cases of illness, when only persuasive methods need be employed, the witch is regarded as quite sufficient for all intents and purposes, especially if the patient is a baby, a small child or possibly a woman; but in difficult cases, where the spirits are violent, as in epilepsy, cholera, smallpox, scarlet-fever, leprosy or the late stages of tuberculosis, the wizard may be called, either alone or as a consultant, because of his mandatory power over the spirits.

The method of conducting the ceremony is determined according to the nature of the disease or the person afflicted. For instance, if the offended spirit causing the disease be a

near relative, especially an elder spirit, like that of a grandfather, a more pretentious ceremony is demanded than is required for some distant relative, for instance a cousin.

Having considered the merits of the case, the character of the ceremony is decided upon by the witch or the wizard; who thereupon gives all instructions for the necessary preparation. When all is in readiness, the ceremony begins in the manner as prescribed by the customs of the country or locality. For example: In the event the witch has been called to officiate—although her confrère, the wizard, may take part, because of his extended powers over the spirits—she begins by taking a seat upon the ground and assuming a preoccupied air, as if searching the furthestmost confines of space in search of the offending spirit. Then she calls the spirits to her, and upon their proper arrival she becomes "possessed of the spirit."

She now arises, and, holding a knife about three feet long in her hand, begins to leap, dance, sling her body in a frantic manner, swing the knife about in the air and occasionally passing it between her feet as if to cut to pieces some invisible object. During this performance she announces the spirit that possesses her and informs her spellbound audience that she now speaks the wishes of the spirit, and which she repeats, saying that the spirit causing the disease makes known its grievance against the patient or the household, then stating what the recompense shall be. Often the grievance is so great that it becomes necessary to pay the witch more money before she can appease the wrath of the spirit.

When at last all requirements are duly met, the witch throws the knife. If the knife, when it falls on the ground, points toward the house, the ceremony is continued, for the evil spirit still remains. But should the knife fall with the point away from the house, then it is known that the evil spirit is going out. With a frantic leap, the witch now makes for a table on which has been placed a big bowl of rice and a bowl of sool, the latter the national beverage. She begins to drink the sool and to cram the food into her mouth with both hands and swallows it without any effort at chewing. Thus having fed the hungry outgoing spirit, the ceremony is concluded.

All the while the ceremony has been going on, the woman's able assistant or her noble confrère, the wizard, has been beating a tomtom, on a big drum, that sounds like the noise of a charivari. These ceremonies usually take place at the patient's house, al-

though they may be conducted at some shrine in the neighborhood or possibly at the house of one of these craftspeople.

The Medicines, Socalled Remedies, and How Applied

There is growing all over Korea a weed that has a "soft, shrubby, finely silky-hairy stalk" and is known to the English-speaking world as the mugwort. This plant is employed to make what the Korean calls a "medicine ch'im," of which there are two kinds—the poultice and the fireball. The weed is gathered in the late summer, tied into a bundle and hung up to dry in the house until needed.

The poultice is prepared by boiling a quantity of the stalk and leaves, then placing in a cloth and wringing until the water is expressed. Then the hot pulp remaining is used as a poultice.

The fireball is made by crushing a small quantity of the stalk and rolling it between the palms of the hands until a ball about the size of a partridge egg is formed. These balls, after being set on fire, are placed over swollen limbs, joints, pit of the stomach or other portions of the body and allowed to burn until nothing is left but the ashes. In the meantime the patient is forcibly held while suffering the agonies of the demons of torment. The dried inside portion of the bark of the mulberry tree is also used in exactly the same manner and for the same purposes.

These two remedies are favorites for treating children and babies suffering from intestinal worms, malaria or fits.

In the first-named condition, that is, worms, two fireballs are applied, one on each side of the spine at its junction with the hips; in the second, one is set over the stomach, and, in the third, on the top of the head, to be repeated as often as the fits recur, which they often do, of course. This medicine-ch'im is supposed to possess certain medicinal virtues when employed in the manner described; as for the burn, that is totally disregarded.

Sesame-oil is used in Korea as a food-oil, just as olive-oil and cottonseed-oil are employed in other countries; but it is also employed as a medicine for its laxative properties and in the treatment of old sores anywhere on the body. The sore is walled around with a rim made of rice-flour dough, the surface of the sore being the bottom of the little "cup," and into this is poured boiling-hot oil. With the cooling of the oil the treatment is completed.

The mint-family, of which there are several varieties indigenous to Korea, is quite a favorite, the herbs being employed in hot decoctions for various purposes.

Ginseng is well and favorably known to the Korean as a great panacea for all ills, but the cost of it virtually prohibits its use among the poorer classes.

There are other simple herbs that are employed in the usual form of hot teas and decoctions, but they would be of no special interest in this connection.

Claws, hoofs of animals, frogs, snakes, human flesh, dried or baked rats, boiled crows, magpies, and dog meat come in for their share as remedies for disease, but for the sake of brevity I will discuss only a few.

Snakes and frogs are employed for tuberculosis of the lung or for other continued forms of illness. A live frog and snake are gathered together, allowing the snake to bite the frog, after which both are killed and put into a jar containing some yeast, rice, and water. The jar then is sealed and buried in the public road just where another crosses it and is allowed to remain exactly one hundred days, when it is taken up from underneath the ground and inspected. If there is a good "mother," such as forms on vinegar, floating on the surface of the fluid, the product is considered finished and ready for immediate use as a medicine. The "mother" only is taken, and that at one dose.

There usually is living about over the country in almost every locality what the Korean calls a snake-preparing medicine-man, who prepares this delectable medicine for sale. Shortly before the expiration of the hundred days, the manufacturer, or possibly better said the brewer, goes around over the country inquiring if there are any who are in need of the medicine. If so, the price is agreed upon, which ranges anywhere from a few yen (one yen equals fifty cents gold) to fifty. On the last day of the one hundred days, the seller and the purchaser go together to the place where the remedy is buried, in order to discover two things, namely, whether the remedy is buried at the crossroads, and whether or not there is a good "mother" in the jar when it is opened. Thus, all possibility of buying a fake remedy is avoided.

The flesh of dead human beings has been stolen and eaten, in the hope of its curing epilepsy.

A certain portion of the "mother's flesh" (afterbirth) is regarded as highly essential for the cure of any disease that a little child may have. The afterbirth of the mother usually

is dried and pieces of it are given to the child during the various intervals of sickness throughout its babyhood. It occasionally happens that for some reason or other the mother of a child has failed to keep the after-birth for her offspring, when she is led to commit the crime of stealing some other baby's inherited panacea from its mother.

During the summer months, when seasonal diseases are most prevalent, dog meat is very popular for the sick, and in days not long past there were abounding dog-meat restaurants where the Korean could go and buy a mess of dog-meat. But these conveniences are now a

thing of the past and the Korean has to kill his own dog at home. However, when a Korean does this, he generally divides with his neighbors, and by this reciprocal process dog-meat may be had in convenient quantities without expense or waste.

The regular medical profession in Korea is daily face to face with these problems, of which the outside world hears only a distant cry and, while they may appear a bit weird and gruesome, these statements are conservatively true to the subject of domestic medicine as practiced by the Korean people in Korea.

Mercuric-Chloride Poisoning*

A Report of Several Cases in Which a New Antidote Was Used

By THOMAS A. CARTER, B. S., Ph. G., M. D., Chicago, Illinois

Prof. Anatomy and Physiology Pharmacy Department, Loyola University

EDITORIAL NOTE.—Some weeks ago Doctor Carter treated a case of poisoning with corrosive sublimate, and in spite of the enormous dose the patient recovered. Reports of the case got into the newspapers—you probably read them yourselves. Of particular interest was the successful use of a new antidote. This has now been tried by Doctor Carter in nine cases, who here tells the medical profession exactly what it is and how employed.

IT MAY seem flippancy to speak of fashions along toxicological lines, but to those who have observed such things it is indeed very apparent that styles in the methods of exit from this dreary world do change—not so frequently, it may be, as other styles or fashions, but, for all that, one is justified in speaking of distinct fashions in self-destruction. Who of us, for instance, cannot remember the vogue in attempts at suicide by means of carbolic acid, and, even though the printed comments at the time gave harrowing details of the excruciating pain and distress suffered before the individual could hope for release from his real or imaginary woes, such details seemed to have little or no influence on the minds of those determined upon their mad course.

Our present-day toxicological fashion unfortunately has not even the preliminary disadvantage ascribable to phenol poisoning. It is but a comparatively short time ago that the people were regaled with the story of a Georgia banker who was so unfortunate as to swallow a bichloride of mercury tablet in place of a popular semiethical salicylic-acid preparation. A serio-comic aspect was lent to the case of that individual by highly colored stories of the alleged joy with which this unfortunate man faced his certain end.

Bold pen-pictures were drawn of the powerlessness of science in the face of this seemingly new problem in the annals of toxicology.

The unfortunate gentleman in our southern metropolis had not yet passed away before reports of similar accidents (?) or purposeful acts began to occupy the front pages of the daily press. As an interested observer, it struck me that the suggestion contained in these various news items was perhaps more powerfully poisonous than the substance with which they dealt. However that may be, there is no doubt that bichloride of mercury poisoning has presented a very intricate problem for solution.

A perusal of many of the works on toxicology published in the last decade shows how little this problem really has been studied; for one work is but the rearranged material of another, the same thing stated in different words, and all of it apparently without basis in fact. I have searched through the literature, both the continental and the contributions of our own writers, and can say that, with but very rare exceptions, most of it had better not have been written at all. Even today, with the number of cases which have been reported (at least in the popular press), we have not as yet had much light thrown upon this particular dark spot in our knowledge. I have been able to find the record of few, if

*Read before the Chicago Medical Society, March 11, 1914

any, cases in which three or more grains of mercury bichloride has been taken in which treatment of any kind has proven adequate.

Having then become interested in this subject in the manner already stated, and after some animal experiments which proved successful, I decided to try the treatment outlined further along in this paper at the first opportunity.

Anent Newspaper Publicity

I will digress here for a few moments to clear up some points in regard to the press notices which have appeared regarding my work:

1. I most emphatically deny that, in any manner whatever, I sought publicity. The cases in themselves were public news.

2. Once the matter had appeared in the press, I endeavored in every way possible to remove the impression that I had an absolute cure, and emphasized the point that my treatment, though comparatively harmless, was an experiment, and that I could not unqualifiedly say that I had anything more than a possible antidote for bichloride of mercury.

3. Although importuned by the press and the profession to give the details and technic of my treatment, I have refrained from so doing until such time as I should have a sufficient number of cases to present some kind of report, that the profession might judge for itself. Even now I consider my report somewhat premature. But there seems to be considerable feeling regarding this matter, so that at the request of some of my colleagues I have consented to come before you. I assure you, gentlemen, that it has been, and is, my desire to conduct my work in an ethical manner. Our worthy president, Dr. C. P. Caldwell, with whom I have consulted frequently, as well as other members of the society, will bear me out in this.

4. As to claims of priority in the use of the remedies used as antidotes for bichloride of mercury poisoning, it does not matter one whit to me whether any or all of the things I have employed have been used by others, as has been suggested to me. Manifestly it is out of the question for a man in any line of endeavor not to make use of or benefit by the work of others. Originality is not put forward as a claim; still, I may say it is not lacking in my work. The special knowledge gained by me I desire to distribute again for whatever good it may do.

Some phases of my treatment may hardly seem essential to you; however, I myself consider all of it important.

I will now proceed to give in some detail my experiences in this matter up till now.

The First Case Recovery

Case 1. I. W. E., age 29, chef. Patient admitted to the German American Hospital at 11:45 o'clock p. m. on January 19; discharged February 2, 1911.

The patient swallowed, with suicidal purpose, about 33 grains of bichloride of mercury, taking the first 2 tablets of 1 3/4 grains each at about 10 o'clock a. m. Later in the day he took 16 more tablets, which had first been crushed and placed in capsules; these being swallowed about 10:50 p. m. These tablets were taken with beer. The man then went to the home of a friend. I was called at 12:30 p. m.

The patient was given four eggs, and then was taken to the hospital. Upon his arrival there he vomited. He was given three more eggs, and milk, then his stomach was washed out. The antidote, as will be outlined later now was administered, with eggs and milk, every hour during the first twelve hours. No food was given after the first twelve hours. The patient passed 10 ounces of urine during the first twenty-four hours.

At 8:45 a. m., on January 20, the patient began passing feces containing small blood clots, and during the next twenty-four hours he passed a large amount of fecal matter and bright-red blood. He complained of considerable pain in the abdomen. At this time there was marked salivation. Examination of the urine at this time showed the presence of albumin and blood, but no sugar. The blood gradually disappeared from the feces and urine. The patient complained of dimness of vision and twitching of the legs and arms. There was also present a peculiar offensive odor, due, perhaps, to the mercurialization. The amount of urine voided gradually increased, the patient passing as high as 70 ounces in twenty-four hours. The symptoms gradually decreased, examination of the urine finally showed albumin absent, and the patient was discharged on the fourteenth day after taking the poison.

The Evanston Case

Case 2. Mrs. M. E. Patient admitted to the Evanston Hospital February 5, 1914; died February 17.

The patient intentionally took Bernays' bichloride of mercury tablets, 1.45 grains to each tablet. She placed a handful of them in the mouth and quickly followed this by a glass of water. In the room were found

broken parts of 32 tablets, and, as there had been a full bottle of 100, as stated by the patient, she must have received 68 tablets, or 123 grains in all.

The woman was seen within about twenty minutes by Dr. Dwight Clark, who washed out her stomach repeatedly with large quantities of warm water, then gave her milk, and promptly sent her to the Evanston Hospital in charge of Dr. Alexander. Here she was given the whites of six eggs and more milk. Because of the intestinal pain, a hypodermic injection of morphine, 1-4 grain, and atropine 1-150 grain, was administered; also, camphorated oil was introduced subcutaneously, as the pulse was very weak and fairly rapid. She had begun to vomit at very short intervals large quantities of bright blood. The morphine was repeated as needed for the pain. At 1:30 p. m. the patient's sight began to fail and she was not able to distinguish persons about her.

At this time I was called, and I began to give her the antidote. Great difficulty was experienced in administering the medicine by mouth, as the patient was almost constantly vomiting. The drop-method by rectum was tried, but the remedy could not be retained; and then the medicine was given intravenously. At about the same time two pints of normal salt solution was given subcutaneously, deep into the tissues below the breast. To this solution was also added a solution of sodium bicarbonate, 3 drams to the pint—this latter, however, not at my suggestion. At a later period this was repeated, and, while the first solution, deeply injected, caused no irritation, the second was not introduced so deeply into the tissues, and was productive of some sloughing.

The bowels began to move soon after the administration of the antidote as suggested by me, and the dejections were very profuse, of a watery nature, involuntary; but they never contained any blood until the eleventh day of the disease. The mouth was not badly affected at any time, possibly because the patient, in taking the mercury, had placed the whole tablets in her mouth and then washed them down with a glass of water.

The anuria, which was complete and lasted for sixty-nine hours, gradually disappeared, and the amounts of urine voided slowly increased; on the sixth day about 12 ounces was passed; on the eighth day, 40 ounces; on the ninth day, 60 ounces; on the tenth day, 90 ounces. These quantities are somewhat approximate, because of a certain loss at the time of bowel movements. The albumin in the urine was very marked at the first

tests, but rapidly grew less; as did also the casts, which were present at first.

On the eleventh day, after a rather restless night, there were involuntary discharges of dark blood, followed later by repeated vomitings both of dark and bright blood. While the pulse and temperature did not indicate hemorrhage, the patient gradually became unconscious, at last passing away, but without convulsions.

As to diet, on the ninth day, when marked improvement was evident, she received ice-cream and junket in small portions. The following day she was placed on a light diet.

Still Another Case

Case 3.—Miss B. T., age 21, German, domestic.

At 8 o'clock p. m. the woman placed six or seven bichloride tablets, which she wanted to take in a vaginal douche, into a drinking glass filled with water. During the preparation of this douche a friend called her up on the telephone and asked her to come to the Hotel Vincendor, which she did. On returning to her room at the Hotel Abalon, at 5 o'clock the following morning, she felt very thirsty and took the goblet containing the mercurial solution, which was standing on the dresser beside the wash-basin, and drank from it two swallows. Feeling a burning sensation in her throat, she dropped the glass on the floor and vomited up what she had swallowed.

Very soon after, a girl friend came to her room, and she called Doctor Flynn. The latter gave her an injection, the nature of which is not known, and left orders for her to drink a large quantity of milk. At 3:30 o'clock p. m. Doctor Atkinson was called, who later summoned me.

The patient was brought to the hospital, still conscious, twelve and one-half hours after taking the mercury bichloride. No gastric lavage had been performed and no eggs were given; but this was done when the patient entered the hospital. I found her anemic, well nourished, tongue hard, and the soft palate reddened, swollen and painful; pain and burning in the throat; very much nauseated; vomited large quantity of reddish-brown fluid containing solid particles. Pulse rapid and weak.

The antidote was given intravenously one-half hour after the young woman entered the hospital, this being repeated every hour, by the mouth.

The case terminated in death.

Considerable interest is attached to the

effect of the mercury upon the elimination of urine and the reaction under my treatment. In the three cases reported it was as follows:

Elimination of Urine

Mr. E. Upon the first day 10 ounces of urine was voided. Then, day by day, the amounts, in ounces, ran as follows: 20, 19, 63, 52, 71, 70, 68, 58, 52, 50.

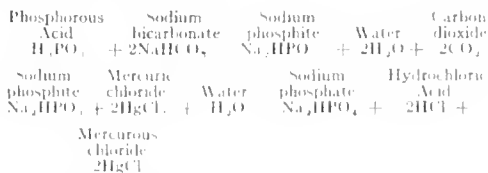
Mrs. F. There was complete anuria for sixty-nine hours. This gradually disappeared, and the amounts slowly increased until the sixth day, when she passed about 12 ounces. On the 8th, 9th, and 10th days, she voided, respectively, 40, 60, and 90 ounces.

Miss T. There was complete anuria here for eighteen hours, then she passed 5 drops. Following is the record: Feb. 15, 8:15 a. m., 5 drops; 11:50 p. m., 2 drops. Feb. 16, 8:10 a. m., 1 ounce; 9:00 p. m., 2 ounces. Feb. 17, 1 a. m., 2 ounces; 3:30 a. m., 4 ounces; 5:00 a. m., unknown (mixed with fecal matter); 11:00 p. m., unknown. Feb. 18, 6:00 a. m., 3 ounces; 4:00 a. m., unknown; 7:30 p. m., unknown; 9:35 p. m., unknown; Feb. 19, 3:00 a. m., unknown; 7:00 a. m., unknown; noon, unknown. Feb. 20, 6:15 a. m., 1 ounce; 8:00 a. m., unknown; 12:40 p. m., unknown; 1:00 p. m., unknown; 5:30 p. m., unknown. Feb. 21, 4:15 a. m., 2 ounces; 4:20 a. m., unknown; 11:40 a. m., unknown; 10:30 a. m., 4 1-2 ounces.

I will not take up your time with a record of my experiments, but will give you the latest and improved methods which I have found to be most successful in combating the deleterious effects of mercury bichloride in the blood and on the kidneys.

The Chemical Antidote Employed

At first, in treating these cases, I employed the combination of phosphorous acid and sodium bicarbonate. These react with each other and with any corrosive chloride of mercury in the stomach, as shown by the following formula:



I suggest giving sodium phosphite (Na_2HPO_3) in place of the combination of phosphorous acid (H_3PO_3) and sodium bicarbonate (NaHCO_3), to avoid the formation of carbon-dioxide gas (CO_2) in the stomach.

I also suggest and give sodium acetate (NaCH_3COO) in place of the combination of acetic acid (CH_3COOH) and sodium bicarbonate, as a diuretic and solvent.

Give 5 to 10 grains of sodium phosphite (Na_2HPO_3) for each 1 grain of mercuric chloride (HgCl_2) swallowed, to reduce the bichloride of mercury to the insoluble mercurous chloride, or calomel. Where there is doubt as to the amount of bichloride that has been ingested, keep the sodium phosphite in excess.

Give 5 grains of sodium acetate every hour with one-half glass of water, to act as a diuretic.

The patient is also given 1-2 ounce of saline laxative each morning, to assist in alvine elimination.

In conclusion, I want to say that I have treated 9 poison victims since January 19, 7 of them successfully. Unfortunately, I am not in a position to report on all these cases at present; however, at a later time I hope to give a more thorough and complete report of all cases coming under my observation, and I trust others will keep track of their cases. Furthermore, I suggest that at some later meeting we have a symposium on the treatment of poisoning with mercury bichloride. If I can be of any service to the profession in this connection, I shall be pleased to lend my efforts.

I HAVE never allowed myself to be the subject of moods. If I felt dull or ill, or if the weather was bad and other things distressed me, I made all the greater effort to cover up my own ills and smiled the more. This was acting, I admit, but in time it came to be a habit, and I count the smile habit just as much worth while as the work habit or the think habit—which, by the way, are three very good habits.—“Dr. Betterman”

Making Good in Medical Emergencies

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE.—This paper is a further contribution to Doctor Candler's most interesting and helpful series on "Medical Emergencies," every installment of which the editor hopes every subscriber will read.

Smothering

THE victim of smothering or, as it has been called, "dry drowning," requires treatment very similar to that employed in cases of ordinary drowning. In practically every instance the nature of the suffocative agent will be apparent, and it must not be forgotten that flour or some other finely pulverized substance may have been drawn deeply into the respiratory passages. Small grains—wheat, barley, and the like—may so occlude the upper passages that tracheotomy alone will save the patient's life. Therefore, the physician should first ascertain if the heart still beats, then remove from the mouth, nares and pharynx, as rapidly and thoroughly as possible, any foreign substances obstructing these passages—pulling the tongue well forward, and examining the larynx by reflected light if possible. A small pocket mirror will serve nicely, and is nearly always obtainable. However, one of the small pocket flash-lights, costing a dollar or less, will be found very convenient for illuminating the throat.

To remove visible foreign bodies, the finger may be used as a "hook," or a pledget of absorbent cotton thrust into a cleft stick and twisted around it (don't forget the latter detail; in one instance where it was omitted the cotton came loose and caused the physician a *mauvais quart d'heure*) will serve as a probang and swab combined.

Never institute artificial respiration until you are fairly certain that the air passages are pervious. In cases of severe respiratory obstruction the facies is distinctive; while consciousness remains the intense distress of the individual is evident. The eyes are fixed, suffused and protruding, the vessels are engorged, and beads of perspiration stand out all over the skin. *Stridor* invariably distinguishes obstructive dyspnea from the respiratory failure due to cardiac, toxic, pulmonary or cerebral disease. The more marked the stridor and the deeper the cyanosis the greater the emergency. In cases of this character the pulse is rapid, irregular, and of low tension; sometimes it is only barely distinguishable.

It is not always an easy matter to decide (especially if the patient has been subjected to pressure) whether the dyspnea is due to injury or to obstruction; but if any foreign substance can be found in the mouth or nares, or can reasonably be believed to have entered the larynx, and stridor is present, then obstruction may safely be diagnosed. When dust has entered the smaller bronchi a most distressing wheezing occurs, but there are none of the disturbing symptoms which mark the case in which there is almost total occlusion of the upper respiratory tract.

The Treatment of Suffocation

The passage of a catheter through the nares, and of the finger or cotton swab into the pharynx, may cause vomiting and the expulsion of the foreign body. It is not always wise for the physician to invert the patient or to attempt forcible removal of an invisible object unless he is prepared to perform an immediate tracheotomy. Foreign bodies *inhaled* and solid substances—such as pieces of meat or false teeth—lodged in the pharynx may produce precisely the same symptoms as these described, but the latter are usually withdrawn or pushed down into the esophagus with comparative ease. If this is not immediately possible, then tracheotomy will afford relief and permit of the removal of the patient to his home or a hospital for subsequent extended treatment. A very small object lodged in the larynx may cause such urgent dyspnea that only prompt opening of the trachea will save life.

Even after the obstruction has been removed it may be necessary to institute artificial respiration. The heart continues to beat for several minutes after breathing has ceased and just so long as it does so the prospects of recovery are favorable.

In certain diseases—retropharyngeal abscess, diphtheria, and edema glottidis, for instance—the occurrence of asphyxia may threaten the patient's life. In nearly every such case the history will aid the physician in arriving at a diagnosis. In the first place, such cases are usually seen at their own homes, or at least among friends, and the

condition has come on gradually. Digital and ocular examination will, of course, reveal the causative condition.

An abscess should be opened carefully with a tenotome or bistoury, the blade of the latter being wrapped with gauze or cotton to within a quarter of an inch of its point. In edema glottidis, scarification of the congested mucosa and the application of a strong solution of adrenalin chloride will often prove most effective. Lobeline sulphate may be given hypodermatically with advantage in these cases.

Hanging or Strangling

In asphyxia from attempted hanging or strangling, the duties of the physician are fairly obvious. In nearly all such cases the rope or other constricting object has been removed before his arrival. He will, therefore, merely have to satisfy himself that no further obstacle to respiration exists, and that the trachea and vertebrae are intact, before instituting artificial respiration. This procedure should be carried out in such a place that a current of fresh air will pass over the face and chest of the patient. Strychnine or other available cardiac stimulants may be given cautiously. Experience has proven the desirability of washing out the stomach in such cases.

Inhalation of Gas

In treating a patient asphyxiated by the inhalation of poisonous gas or vapour, administer oxygen if it be obtainable. In the larger cities pulmotors or other apparatus for producing artificial respiration are available and the employment of such an appliance undoubtedly materially increases the patient's chances of recovery.

It must be remembered that under ordinary circumstances the fight for life is likely to be a long and strenuous one; in several instances of gas poisoning recovery has been accomplished only after hours of labor. The older the patient and the longer the inhalation of the noxious vapor the greater the need for vigorous measures and untiring perseverance.

Get the patient out into the open air, on a porch or at least in a room in which all the doors and windows are thrown widely open. The chest should be bared and cold water dashed thereon; the abdomen should be briskly slapped with a wet towel; but the rest of the body of the asphyxiated individual must be kept warm by the application of hot blankets, hot-water bags, and the like. The limbs should be rubbed and massaged briskly.

The tongue should always be drawn forward, and secured.

Begin artificial respiration as soon as possible and keep it up until the uselessness of further effort is apparent. Ammonia inhalations, saline transfusions and hypodermatic injections of camphorated oil may be given with decided advantage. Later, if the heart wavers, strychnine and cactoid will afford good results.

Is the Patient Dead?

Several readers of CLINICAL MEDICINE have asked that I give a clear description of the conclusive signs of death. "Just how," one physician asks, "may we know positively that the individual is *dead*." On one or two occasions I have thought that possibly we have relinquished our efforts at resuscitation too soon." Unfortunately, there is no single and generally accepted sign of death.

The physician who has practiced for years *knows death*, intuitively almost. There is some indescribable change which will enable him to say positively, "That man is dead," whereas, a few minutes earlier, with exactly the same conditions presenting (to the ordinary observer at least), he would have fought hard to fan back into a flame the faint spark of vitality he *knew* to remain.

In some cases, however, it is very, very difficult—practically impossible, in fact—to pass final and conclusive judgment. Especially is this the case when some perfectly healthy individual has met with an accident and those who love him refuse to believe that he has been taken away and frantically urge the physician to do something more. It is worse than useless, of course, to try to reanimate a corpse but—and here is the crucial point—*until we are quite sure that this person is dead it is our duty to continue our efforts for resuscitation.* Unless the mark of the Great Destroyer is obvious, persist in your efforts until definite and positive signs of dissolution are apparent. Also, it is well to make every reasonable effort to restore the victims of supposed sudden death. We should treat every such case as one of suspended animation. The chief causes of sudden death are aneurism, apoplexy, organic heart disease, shock, asphyxia, sunstroke, lightning stroke, contact with wires carrying high-voltage current, and poisoning. Few poisons kill instantly.

In drowning, one authority says the case may be regarded as hopeless (i. e., the individual is dead) when "the eyes are open with the pupils dilated and the conjunctivæ insensible, the countenance placid, the skin

cold throughout, frothy mucus remains around the mouth and nostrils, there is no attempt at respiration, and the heart's sound is inaudible with the ear to the chest."

Personally, I am inclined to doubt the accuracy of this statement, for, though all those signs are found, necessarily, in a dead man, they may also be present before death has occurred.

The Definite Signs of Death

The signs of death are as follows:

Absence of respiration, entire stilling of heart sounds, proven by careful use of the stethoscope—the "ear to the chest" cannot, in the nature of things, be considered satisfactory. To test the breathing, hold under the nose and before the mouth a mirror or piece of polished steel, for instance, a new razor blade. If no vapor appears thereon within three minutes life may be regarded as extinct.

A still more delicate test is to place upon the bared chest a basin of water and reflect from it an image by artificial light or sunlight. The faintest stirring of the thoracic muscles would cause deflection of the image.

The pupil fails to dilate under the application of a solution of atropine.

Blood does not flow upon the opening of a vein.

Injection of a few drops of ammonia water under the skin causes a dirty-brown stain; in life it would be red or purple.

A needle plunged into the substance of the biceps or any other muscle, and left *in situ* for thirty minutes, is withdrawn untarnished; if it oxidizes life is *not* extinct.

The fingers placed together and held before a bright light appear a dead white; in life there is a pink tint.

The end of a finger around which a tight ligature has been thrown remains white. If it becomes swollen, red, or even shows a decided pink, life may be presumed to be still present.

These tests are really all sufficient. Indeed, if neither respiration or heart beats can be detected by the trained observer it is quite safe to assume that death has occurred. However, in extraordinary cases it may be well to leave the body undisturbed, in a natural position, until the lowering temperature and oncoming rigor mortis afford the final proof of death that positively cannot be gainsaid.

(*To be continued.*)

Some Accuracies of Practice

The Correlation of Precise Methods of Diagnosis and Treatment

By B. G. R. WILLIAMS, M. D., Paris, Illinois

Author of "Laboratory Technic for Practitioners"

EDITORIAL NOTE.—Here is another article in Doctor Williams' interesting series, in which laboratory methods in diagnosis are made to give "pointers" for accuracy in treatment. You will find these papers very helpful and interesting.

Total Phosphates

THE absolute phosphates are increased in some diseases and reduced in others. Calculations may have considerable weight in diagnostic problems, but cannot be discussed in a communication of this kind. The so-called phosphaturias I shall pass briefly, the term being a misnomer. The presence of precipitated earthy phosphates in a single urinary sample does not indicate that the total phosphate excretion is high, but rather that the diacid sodium phosphate has been replaced in part by less soluble earthy phosphates.

True phosphaturia must be determined by quantitative estimations. True phosphaturia must be treated, inasmuch as it has been shown that phosphates are not easily excreted

by the kidneys; and especially is this true in regard to diseased kidneys, where a phosphaturia may prove very irritating, indeed. It has been suggested by von Noorden that calcium carbonate be administered along with the food, in order to precipitate soluble phosphates and decrease bowel absorption, thus preventing ultimate elimination by the kidneys. A 10-grain tablet of calcium carbonate dissolved in a pint of milk will care for the soluble phosphates.

Total Sulphates

Therapeutic indications are more frequently suggested by an increase of conjugated sulphates than by high total sulphates, while both factors are of extreme value in delicate questions of diagnosis. This being more

strictly a therapeutic article, let us look into the treatment suggested by high conjugated sulphates. These soar upward in the same conditions that raise the indican bodies. In fact, true indican is a conjugated sulphate (potassium-indoxyl sulphate).

The physician will keep in mind, therefore, that, when the laboratory-worker reports high conjugated sulphates, the same therapeutic measures which apply to indicanuria will promise equally good results here. These measures have been described in a previous communication.

Total Oxalates

I shall have considerable to say concerning oxaluria and its treatment in my next communication. High total oxalic acid in the urine may favor deposition of crystals in the urinary passages (combination with calcium) leading to irritation and hematuria; but Fuerbringer has shown that a urine may contain a large amount of oxalic acid without such a deposition. And, so, quantitative estimates are of little value even in the larger laboratories.

Certain joint pains have been laid at the door of oxalic acid. Thus, in "tomato-joint" we have, apparently, an example of an oxalic-acid diathesis. It is possible, however, that certain of these cases are not true diatheses, but merely a result of oxalic-acid retention, decreased elimination or a deposition essentially secondary to other processes and accompanied by no true increase of oxalic acid in the circulation. Our information is not complete in this regard. However, as shall be shown in the next paper, oxalic acid plays an important part in the microscopic uranalysis.

Total Uric Acid

Here again we cannot go into diagnostic problems associated with quantitative variations of the uric acid, except to touch lightly upon the so-called "diatheses."

In gout and certain hundreds of other minor disorders, uric acid has borne the blame for many years. There can be no question but that uric-acid deposition plays a part in true gout, but this part is, perhaps, secondary. The various forms of arthritis, and the like, formerly attributed to the uric-acid diathesis have been seized upon by the pathologist and, properly, placed under other heads, notably under the infectious toxemias.

So far as the uranalysis is concerned in gout (especially in acute gout), the uric-acid excretion is reduced, except at periods, when it is

excessive. To be sure, the uric acid in the blood is high, but by no means higher than in certain other chronic diseases or, indeed, than supplied by a very heavy proteid meal. However, uric acid plays some part in gout, and, even though deposited in the joints secondarily, it is well to increase its elimination via the urine route.

Can we do this? We can.

The value of colchicine in true gout is universally accepted among practitioners. In the acute attack, it should be pushed until nausea or diarrhea threatens. Gradually the uric-acid content of the blood will be lowered and large amounts of uric acid and the urates will appear in the urine.

Now and then colchicine will fail us, in which case atophan, a synthetic possessing a similar action, may aid; although reports show that this remedy also fails in cases perhaps in a greater percentage than in those treated with colchicine. Hence, the better-known drug should be tried first of all.

These bodies are termed uric-acid mobilizers. Uric-acid "solvents" are "fakes" in the strictest sense of the word. In fact, the use of these mobilizers is almost contraindicated where uric-acid deposits are present in the urinary tract, inasmuch as the uric-acid output by the way of the urine is increased.

Of course, attention must be given to the diet in all of these cases, for this contributes in part to the uric-acid content of the blood. Special stress is to be laid upon the reduction or prohibition of the following foods and beverages: all butchers' meats, but especially those rich in nuclein, such as liver, sweet-breads, brain, and kidney; tea, coffee, cacao, alcohol, and so forth.

Total Indican

Total albumin, glucose, and acids have been considered on a previous occasion.

Indican estimations can not, and in fact need not be accurate. As a rule, indicanimeters are practically worthless. Indican even in traces must be considered an abnormal constituent of urine. The use of acidimeters, on the other hand, is entirely justified, inasmuch as traces of acid are present in normal urine. But, in the case of indican, diagnostic and therapeutic interest is centered on the one question, "Is it or is it not present?"

It has been suggested that we may control or test the worth of a line of treatment by comparative indican estimations. We can not. For, even though our methods were accurate, it is impossible at times to explain quantitative fluctuations. A treatment to

be of value must drive indican completely from the urine and keep it out. Indeed, a drug acting as a diuretic might actually be judged of worth in indicanuria, inasmuch as the tests would be less marked in the urine thus diluted.

The treatment for indicanuria has been outlined in a previous paper.

Total Mucus

Laboratory-workers are agreed that the total mucus in the urine offers neither diagnostic nor therapeutic information. In questions where possible disease of the urinary tract plays no part, the presence of considerable mucus suggests greater concentration; still, this point may be disproven. Mucopus is not true mucus, but is alkaline pus.

INDICATIONS SUGGESTED BY THE MICROSCOPICAL URANALYSIS

Observation of the nubecula is important from the standpoint of the diagnostician, but so far as we know its presence in the urine has no therapeutic significance. That is to say, it is of interest to determine whether or not other elements and substances are present in amounts sufficient to obscure the normal mucus and its suspended elements; whether or not (as in an alkaline cystitis) there is a "nubecular increase" (which in fact is no actual increase, but an ammoniacal pus, and which can be simulated by adding alkali to any purulent urine), and concerning other variations. But knowing these variations, scientific medicine has not as yet proposed remedies or, in fact, regarded them worthy of treatment. We have touched upon this point in our consideration of mucus.

But our stand must be entirely different in regard to cylindroids, or pseudo casts—likewise of mucus composition. In a highly concentrated urine, the nubecula may give us the impression that we are dealing with cylindroids. We are not, as observation in a number of urines will demonstrate. Cylindroids are not thread-like ramblings of amorphous mucus, but must be regarded as true anatomical elements, quite as much so as true casts are accepted as elements and classified under the microscopy of the urine. Once distinguished, concentrated mucus will never again be mistaken for cylindroids.

Increase of mucus has no clinical significance; this is the consensus of opinion. Persistent presence of true cylindroids must be regarded as an item of pathological importance, and this is the view held by many men,

among them myself. He who belittles the cylindroid is the man who terms every microscopical mucus thread a cylindroid.

Cylindroids Defined

What is a cylindroid? The cylindroid is a cast; not the true cast as described by the texts, but a cast, nevertheless—and from the same mold that mothers the true hyaline, granular or cellular types, viz., the uriniferous tubule.

The cylindroid may be differentiated from other casts by two facts: (1) It is not a perfect cast; for, instead of breaking off bluntly at least at one end, it pulls off, leaving sharp or frayed-out ends. (2) It is composed of mucus, whereas the others are composed of the products of degeneration, necrosis or inflammation. There are other points of differentiation, but for practical purposes these two will suffice.

Clearly, the cylindroid does not (like the other casts) denote serious alterations in the kidney parenchyma, or interstitial substance: it has a meaning nevertheless. Under what conditions, as nearly as we can imagine, would such small amounts of mucus as are likely to be present in the uriniferous tubule be likely to form a cast of that tubule? But one explanation suggests itself to me—a very sluggish flow of urine through that tubule (pressure from congestion, and so on).

This is interesting, indeed; products of excretion should be removed as quickly as possible from the organism attempting to throw them off. It is true of feces (copremia); it is true of bile (bilirubinemia); it is true throughout the animal and vegetable kingdoms. Thus, we find the velocity of urinary flow through a tortuous secreting kidney-tubule very, very slow. It may be true that even at Bowman's capsule there was a water paucity and a solids overplus; cells down the line may be reabsorbing (?) the watery portions—upon all of these points we cannot definitely commit ourselves; but, nevertheless, we have to face the fact that the flow has been retarded sufficiently for a mucus cast of that uriniferous tubule to be formed. Mucus is cohesive and tractile, and is not very adhesive, friable or brittle, even when considerably "dried-out," as are the inflammatory casts. And, so, the typical contour is easily explained.

What to Do

What am I going to do about it? I do not stand alone on this question. Certain men have acknowledged the molding of the cylin-

droid in the uriniferous tubule. Others have conceded that something surely must be at fault in the kidney, and have thrown out hints of such vague terms as "irritation," "urinary congestion," and so on. Still others, supposed to be authorities in uranalysis, have ignored cylindroids so long that into their books have crept such statements as "composed of nucleoproteids," "cylindroids, mucus threads," and so on.

I have suggested a cause; and this is what I should do about it, in fact, exactly what I have seen done with excellent results. I should hasten the flow of urine through those kidneys. I should not employ the drastic remedies, but the milder diuretics, such as, arbutin, for instance, which is excellent in cases of this character.

• Significance of Renal Elements in Urine

The finding of the so-called true casts of the uriniferous tubules is universally accepted as proof of the presence of products of inflammation or of retrograde changes without definite inflammatory reaction. Therefore, casts in the urine sample is proof sufficient either of an *active* true nephritis or of an *active* so-called nephrosis (injury with degenerations, necroses, and so on, but no inflammatory reaction); and we can not always differentiate between the two merely by the number or varieties of casts.

We can not go into the question of cast formation in this paper; neither can we dwell upon the diagnostic aspects more than to point out that, while casts denote active lesion rather than consequent phenomena of a former (healed or repaired) injury, they certainly do not, as is the popular view, indicate a progressive, or hopeless, trouble.

Hyaline casts are simple true casts. They form the matrix for granules, cells, fat droplets, and so on, which lend individuality to the other forms. In so many words, all casts which are not cylindroids, are hyaline casts. What is hyaline? We do not know, or at least we can not agree upon a proper definition. As has been stated above, hyaline is not to be regarded as a normal urinary substance. By some it is supposed to represent a local hemorrhage into a uriniferous tubule, with subsequent alterations resulting in the peculiar translucent appearance and brittle makeup. Hyaline gives some peculiar chemical reactions, but of its actual composition and derivation we know but little, although there are plenty of theories.

The therapeutic indications that apply to

the hyaline casts necessarily hold for all casts that are not cylindroids, (although additional indications are met with in the case of the others). We cannot hope to avoid the formation of hyaline casts by rushing the urine through the kidneys; at least we cannot avoid the presence of hyaline by any such method. After all, it is the hyaline rather than the cast that we wish to avoid, for hyaline cannot be regarded as a normal constituent of the urine. But until we know its actual composition and derivation, how can we hope to prevent its presence in the urine?

I am forced to acknowledge that specific remedies do not suggest themselves in these circumstances; so, about the best we can do is, to initiate a treatment for albuminuria, for it is seldom that we see two findings going so closely together as do serum-albumin and hyaline casts. In fact, the hypothesis is seducing that hyaline, after all, may prove but a modified serum-albumin. I have observed that those measures which reduce serum-albumin in the urine also reduce the number of hyaline casts. These measures we have recited.

Granular casts are hyaline casts which have included granules of dying protoplasm—not coagulated serum-albumin, as is the popular opinion, but bits of renal cells. The protoplasmic portion of the cast argues for retrograde changes more forcibly than for inflammatory reaction. It means that those cells lining the lumina of the uriniferous tubules are undergoing cloudy swelling, then coagulation-necrosis, and finally granular disintegration.

First of all, it would appear, the cloudy swelling must be reckoned with. Modern theories favor "acid retention" (in the cytoplasm) as the chief cause of cloudy swelling of the renal cells. Consequently antacid treatment suggests itself as most rational of all; and we shall have something to say regarding this under the finding of kidney-cells in the sediment. Some of these urines may not be highly acid, but, instead, actually alkaline. Do not let this mislead you, for we are dealing with acid retention (not necessarily a high acid secretion—the cause of acid fixation in cytoplasm is unknown), owing possibly to the fact that the cells are weakened by the nephritis or toxic nephrosis, have failed to pass on these acids, and, so, their protoplasm suffers by virtue of this retention.

At times, the change may be of a fatty nature; that is, fatty degeneration and consequent losing of fatty granules. The cause

being the same, the treatment is the same. Entire epithelial cells, pus-cells and blood-cells frequently are included in the hyaline matrix; and, so, we have other indications, but these differ in no manner from those where these elements float free in the urine.

Inorganic Mineral Solids in Urine

Before proceeding further with a consideration of the organized sediment of the urine, it will be well, for various reasons, to take up the role of the amorphous and crystalline deposits of salts. We have had something to say regarding phosphaturia; there is nothing to add save the caution that the microscopist understand thoroughly the appearance and meaning of the various phosphates in the urine, so that he will not confuse the really important deposits.

The following therapeutic indications are suggested by the "phosphaturias:"

1. Where the passing of such deposits causes irritation, those measures aimed at the reduction of the total phosphates may be brought to bear. In this connection, we have mentioned calcium carbonate.

2. The same statement will apply in all nephritides, if we are to accept without question von Noorden's advice.

3. It is claimed that "phosphaturia" follows certain headaches and other nervous disorders. However, this means but little to the therapist, even though it be true. Treat the headache and its causes, and not this one consequence. Surely, it is not

reasonable to assume that a precipitate of earthy phosphates must be held to account for a headache; at least I can see no connection, for the total phosphates may not be high.

4. Triple phosphates (coffin-lids) voided in the urine suggest alkaline cystitis. The mechanical cause must be removed, if possible; the fermentation held in check with hexamethylenamine, irrigations and so on; and acids given cautiously, to neutralize the volatile alkalis. Boric or benzoic acid may aid. Do not give acetic or citric acid, as they may actually increase the alkalinity. Ordinarily the acid salts may act much better than the organic acids. Best of these is diacid sodium phosphate; it is contraindicated, however, if the triple phosphates cause mechanical irritation (being, as it is, a true phosphate), and calcium carbonate must be given instead (for reasons explained above).

Ammonium urate is also a result of ammoniacal fermentation, and its appearance in the freshly voided urine calls for measures identical with those advised for triple phosphate. The appearance of amorphous sodium and potassium urates and of uric-acid crystals is of considerable diagnostic significance at times (especially as an index of nitrogenous catabolism); but of themselves, they suggest but little to the therapist, except as we have shown above, perhaps, in cases of gout and certain obscure arthralgias.

(To be Continued)

The Doctor's Automobile

The Kind to Buy, and How to Use It

By A. L. BENEDICT, A. M., M. D., Buffalo, New York

Editor of "The Buffalo Medical Journal"

THE following statement is prepared for the physician who contemplates buying a car and who wishes to consider economic problems somewhat carefully, rather than for the expert.

Initial Coast

A satisfactory car can be bought for about \$500. So far as can be judged from observation on the road, such cars cause less trouble than do the more expensive ones; not to mention that the incidentals are much less, partly owing to the fact that garage-men grade their prices for "repairs" according

to the seeming wealth of the owner. Such a car, well used, should last at least three years or can be traded for a new one at a discount rate of about \$150 per year of use. The yearly cost of "plant" is, therefore, the interest on \$350, plus freight of delivery of a new car, plus \$150. Expense beyond this amount represents luxury, pleasure use, and so on.

Upkeep and Mileage Expenses

Owing to a bad carburetor, inexperience, and other factors, my mileage varied, from about 12 miles per gallon of gasolin at the

outset, up to about 25 miles on country runs, with an air-device for improving the carburetor, in the summer, and down to about 14 miles in the winter, when the car was left running during short waits and when more low speed was used, very little long-distance riding being done. The general average was 17.83 miles per gallon, at a cost of 1.3 cents per mile. During most of the time, 18 cents was paid for gasolin, against 17 cents during the winter. For the first 2000 miles, 20 cents a gallon was paid, under the delusion that a superior grade of gasolin was being obtained.

The average cost was also increased on account of initial imperfect equipment, so that the engine ran on three cylinders a good deal of the time. Oil, allowing for emptying about every 3000 miles and for waste in the beginning—from fear of burning out the bearings—was used at the rate of 1 gallon for each 345 miles. The price paid ranged from 80 cents to 30 cents per gallon, and the latter really proved more satisfactory than did the more expensive kinds. Oil, therefore, should cost less than 1-10 of a cent a mile. The same kind of oil was used for lubrication, except that, recently, sperm-oil has been employed for the commutator, to prevent fouling. Grease: 5 pounds, at \$1.00, lasts for about 10,000 miles, or 100 miles for one cent. With a good equipment or sufficient knowledge to keep the engine running on four cylinders, I am convinced that the mileage cost for gasolin, oil and grease, all told, should not exceed 1 cent for a small car, and up to 3 cents for a large car.

Expense for Tires

This item, for a large car, is said to cost about 9 cents a mile. Smooth tires for a light car cost about \$60 a set for outer tubes and about \$16 for the inner. By careful buying, for the present year, these sums can be reduced to about \$44 and \$11, respectively. The life of a tire is something like that of a suit of clothes. As there is not the same objection to patching a tire and "making it last," it may be estimated that the maximum average use of a simple tire is 5500 miles, bringing the cost to about 1 cent a mile as a minimum, plus whatever one has to pay for repairing punctures and changing tires. Half the ordinary year's use of a car, so far as tires are concerned, is included in the initial cost of the machine (10,000-mile estimate). It should be remembered that there is a point in repairing tires, as for clothes, at which even financial economy

ceases. Retreading seldom pays, although one may not lose money, as compared with throwing away a tire that is perfectly good except for wearing away of the rubber covering.

A long stick with right-angle projections, to gauge the wheels (especially the front ones), should be applied frequently, as, if the wheels get out of alinement, the tires wear rapidly. A new section does not pay, except for a comparatively new tire badly injured in one place. Liquid coatings, to make up for gradual wear, do not pay, although one may use them for whitewashing a fence. It is an open question whether vulcanizing stone bruises and nail holes pays if one has them done at an actual expense, but there is no question as to its being profitable if one does not have to count the cost of skilled labor. A very good vulcanizing outfit can be bought for about \$2.50, and some of the plastic filling material is very good, although usually it has to be replaced often.

Punctures, Blowouts, and Chains

In considering economy, it should be remembered that actual punctures are not usually so frequent or so troublesome as blowouts and that abrasions of the inner tube, due to rough places on the rims and outer tubes and to nipping in replacing tires, are worse yet. No tire is absolutely proof against deflation, unless it is filled with some solid material, and any tire which aims to prevent either punctures or to replace chains to prevent skidding costs at least as much as it saves, beyond the ordinary cheap smooth tire.

In regard to skidding, one should choose at the start between nonskid tires and chains. The fact that one so often sees chains on corrugated tires seems to indicate that the latter are not efficient, except the particular one which the agent is trying to sell, and, with the same exception, chains are liable to rip off the corrugations. The corrugated tires are also more difficult to vulcanize. I have used chains only two or three days. For a light car, in a well-paved level city, they are not needed for rain, ice, fresh snow of moderate depth or packed snow, provided one is willing to reduce the speed limit to 15 miles, and to reduce further when turning corners or when a sudden stop may be necessary.

Chains are necessary in mud, especially on hills, but can be dispensed with even in such cases when one faces the ordeal of putting them on. In dry, warm weather, it is no

trouble to put on a chain. It is not necessary to jack up the car, nor is it a good plan to stretch the chains on the road and back onto them. They should be draped over the wheels and the car run forward part of a turn. It should be remembered that chains inevitably injure tires and that the cross links need frequent replacing. Having paid double price to get cross brass links and having had the brass wear down to steel in fifteen minutes, I am inclined to favor using cheap steel chains and carrying extra cross links.

Lights

There is no question but that the most economic light, especially when the car is left standing at night for long periods and lights are required, is kerosene. There is equally no question but that the cheapest brilliant light for searchlights is acetylene. For moderate brilliancy, sufficient for night driving in the country, except when one meets an expensive sunburst equipment, economy and convenience, an electric attachment to the magneto seems to be the best. The manufacturers will not guarantee the magneto against such use but say themselves that it is doubtful whether it will materially reduce its efficiency or life. Having been provided with a leaky gas generator, and having gone from this to storage-battery lights and having broken several glass protectors, my bill for lighting was relatively high—over \$32, with very little use of lights at night.

Repairs and Various Other Items

My repairs and similar expenses came to about \$100. About \$10 may be considered legitimate expense; \$28 was due to burning out bearings, owing to lack of an oil-gauge, the pet-cock arrangement being entirely misleading to one not an expert, although simple in theory; about \$55 to accidents not covered by insurance and not collectable; besides, about \$35 more paid by the vulnerating party, and not counted in the \$100. The remainder was mostly in the form of tips for getting the car started, due to imperfect original equipment, inexperience, and lack of muscle.

The expenses independent of use, and equipment include state tax, rent or its equivalent, cleaning, and so on, and insurance; and these, of course, vary according to circumstances. It is a good rule to keep the car in a private barn, and I have made it a rule not even to store it in a regular garage for a night while traveling. Thefts of gasoline, tools, and so on, are not so important in them-

selves as in the inconvenience of their being unexpectedly missing; also, it is easy for a garage owner to "discover" defects that must be repaired immediately, or to be so intensely "altruistic" as to make work for the next garage. However, there are to be met with a good many really honest mechanics who devote their attention to automobiles.

Insurance, below the \$25-limit, is an almost prohibitive expense; and, as small cars are seldom damaged to this amount in a collision, it scarcely pays to carry special collision-insurance. Partly on account of the lower limit of insurance, it is wise to carry two extra outer tubes that have the inner tubes in place, or else a complete wheel, so that, if tire thieves are at work, the loss will be covered.

Extra Equipment

Besides the ordinary tools, it is well to carry the following: extra tires, patching kit (for long trips), vulcanizer, spark-plugs, valve-caps, can of engine-oil, box of grease bottle of high-test gasoline or ordinary gasoline with a little ether in it, varnish- and metal-polish, plenty of rags, oil- and grease-caps, cotter-pins, and so on. Mailing cases are convenient for carrying many of these things.

An old valise will hold most of the miscellaneous equipment; and it saves time, especially in the dark, to have everything needed for a given trouble, such as a puncture, in one place. A trouble-lamp is convenient, but can be dispensed with if everything needed can be gotten out together. If electric lighting is used, extra bulbs should be carried. Everything carried—tools, equipment, extra wraps, and so on—should always be packed or arranged with the idea that the constant jar of the car will break anything that can be broken, chafe everything that can be chafed, and shake out onto the road everything that is loose.

Additional stationary equipment. The following additions to stationary equipment are desirable in a "simple" car, as the simplicity is of the September morn kind.

Oil gage. I have used a dash gage, but have replaced it with a 25-cent pet-cock gage, fearing that the long float might stick and because the glass gage gives an idea not only of the quantity of oil but of need of renewing it. A small wooden box or mailing-case may be used to protect the gage from flying stones, although, if properly placed, there is little danger of this. However, it is wise to carry an extra gage.

Gasolin gage. This is not strictly neces-

sary if one is careful to inspect the tank every 100 miles.

Hodometer. This is necessary for oilings, if for no other purpose.

The Starter and Other Luxuries

Electric starters are rather unreliable and the expense is disproportionate to the price of small cars. A good mechanical cranker may not actually reduce the foot-pounds of power necessary, but the power is exerted at a physiologic advantage and it saves getting in and out of the car; and, ultimately, it saves engine wear, as without it the engine will be kept running when it might be cooling off. At the same time, the primer should be transferred so as to be pushed with the foot.

Priming, acceleration by admitting air at high speeds, testing the carburetor at low speeds, cleansing cylinders, and so on, may be accomplished with a single instrument, at small cost.

On a small car, a battery for cranking should not be necessary. I installed dry cells on account of hard cranking, but found that it made no improvement, the defect being inherent with some part of the ignition-apparatus. A storage-battery for lighting has advantages already discussed and may also be used for cranking. A further use is, to heat the manifold by means of a resistance coil, so as to facilitate starting in cold weather or when low-grade gasoline or mixtures (intentional) of gasoline and kerosene are being used.

Shock-absorbers are a great comfort, and if one has only a limited amount of money to spend on a car it seems better to buy a cheap one and to spend from \$50 to \$100 on these additions, rather than to buy a more expensive but no better-equipped car.

Of the 1002 articles advertised to supplement the needs of automobilists, I would mention only one other as imperative, namely, efficient supports for the number-signs. Many of these articles are cheap and valuable, but one can readily waste time and money on them. Files, extra forceps (often two are needed in removing valve-caps), wrenches, a mallet for removing tires that are stuck, brushes, and so on, can usually be supplied from ordinary tool-boxes, and so forth.

The Time Element

So far as my observation goes, the doctor who personally takes care of his car does not save any time, unless he uses it strictly for business, and neglects its outward appear-

ance. If one follows all the directions printed to save tires and keeps the machine in perfect order, he will have no time for anything else. Many men in and out of the profession are frittering away their time riding around in an automobile. As a means of recreation, the automobile is all right, but one should not forget that an occasional boat trip or a trip by train to a distant point is better than spending all one's time on country roads within a day's radius. And, if the automobile is valuable to give the city dweller a taste of the country every day or two, it is senseless to run up records of speed and mileage instead of getting out and enjoying the country itself. A man taken for a country ride by an automobilist was asked what he had seen. "A streak of red or brown in the middle, a stretch of green on each side and a line of blue above it," was his reply.

Do Not Forget How to Walk

Just because one has an automobile is no reason why he should forget how to walk or to use—as economy, convenience and comfort suggest—carriages, street-cars, and bicycles. One of my pleasantest recollections is the quiet, moderate travel on a wheel; dusty and sweaty, to be sure, but without the grime, noise, nerve tension and constant fear of disablement attendant upon the automobile.

I will close with two suggestions. Don't be a hog. Show the same courtesy to your friends who do not own automobiles as you would in other matters; and, so, follow the same time-honored rule as to pedestrians as horsemen have done for these many years. Most of the pedestrians you pass in the country will not die of heart failure if you give them a "lift," and, if the custom were more general, more consideration would be shown to automobilists. Secondly, in the city, do a radical ectomectomy. In other words, cut out the cutout, this latter being an affectation on a small car and a nuisance on a large one.

[Dr. Benedict is an advocate of the small car. Doubtless among our readers there is one who would like to take up the lists for the larger machines. If so, "The door is open." Every doctor seems to have his favorite, and nearly every one has more or less trouble of some kind. In the Miscellaneous Department, this issue, two physicians give their experiences, with careful records of expense. We commend these articles to anyone who may be interested—ED.]

Some Facts About the Papaya

Also About Pineapples and Grapes

By ROBERT GRAY, M. D., Pichucalco, Mexico

SOUTHERN interest was so extensively aroused by what I said about the papaya in the January, 1913, number of CLINICAL MEDICINE that it is impossible for me to answer all the letters that came through personal mediums.

Dr. C. R. Oertel, Sante Fé, Isle of Pines, Cuba, wrote me he had a grove of 200 trees, three varieties, and desired to exchange seeds. This is an impossibility in these parlous times, and I make this statement in order to suggest how seed may be obtained. The better plan would be to get seed in ripe fruit, from Havana, where I suppose there is plenty of it. Mine came that way from the coast. It was only one big long fruit; this, however, produced long, big round, and small round of the size of a big apple; all, though, of the same flavor.

Papaya may be grown successfully where there is no frost, or where it might be perfectly protected from frost injury, say, the Everglades coast belt of Florida. The Keys should be ideal locations. It could be shipped by express as far as Chicago, maybe farther; starting it when mature, but before yellow and soft. I frequently have a fruit in the house a week before eating it.

Papaya as a Digestant

The fresh fruit dominates digestion to such a degree that I can eat salt fish or beef—an otherwise impossible ordinary diet for me—if I eat papaya at once afterward, without experiencing the slightest inconvenience. And I have seen the same results even in dyspeptics, many times. In long and difficult convalescence this fruit acts magically.

I presume the juice could be preserved in some way along the line employed to keep that of pineapples fresh, or that of grapes. If your protected spots would produce sufficient quantity, some way would be found to keep the juice to send where the fruit could not go. This should be extremely profitable, as I have ripe fruit in eight months after the seed sprouts; and many plants produce as high as fifty fruits each—seldom less than twenty.

I eat the papaya at table, the same as you all eat musk-melons, three times daily, frequently. It needs no sugar. After the first planting gives fruit it can be had ripening all

the year round. I have to destroy plants as weeds, they start so numerous, even where not wanted.

Pineapples and Grapes

But now that you have preserved pineapple-juice at ready command, you should be out of the jungle with indigestion and critical convalescences. A tablespoonful of ripe pineapple-juice in a tumbler of water, on any ordinary prudent meal, will counteract such inconvenience. I use it extensively when out of reach of papaya—I being the only grower of papaya in nearly fifty miles around, so far as I know. I grow my own pineapples and have the juice always ready for use, or the ripe fruit, nearly any day in the year.

Ripe grapes positively cure dyspepsia, if the patient will fill up with them every day and stick to the treatment, eating rare beef-steak or roast, baked potatoes and butter, brown bread, and other nutrients. But the grape-juice will not do the work of scavengers, nor distend the contracted stomach, which the fruit performs so admirably.

You all have ripe grapes the year round, or practically so; and much more cheaply than drugs. I imagine few people would tire of such medication. Grapes supply a need of bulk in the alimentary tract that nothing else perfectly harmless remotely approaches, in quantity so excessive that one more cannot be ingested, with a high degree of benefit. But eating them two or three times, or even much more often, will not suffice to effect a cure. The process may be long and seem tedious; for the derangement is deep-seated and often so obstinate as to be without the pale of successful clinical medication; and the living death it often entails is a fearful martyrdom.

The papaya, the pineapple, and the grape have properties that would afford more relief to a larger percentage of suffering humanity than any other three substances in the vegetable kingdom or the chemical realm. More than half the physical distress in the world originates in the stomach primarily due to multiple causes, more often to imprudent or vicious eating and drinking. But the cause need not disquiet our solicitude: relief is the seriously puzzling question; and there is

no other universal affliction in such startling number so little benefited by chemicals.

Papayotin has practical merit in the treatment of indigestion; but much of it is made from a little wild fruit, used to make preserves in a crude way, that grows all over the woods here; but it is without medicinal value, either raw or cooked; and no one attempts to eat it without sweetening. As a preserve it has little merit.

Advantages of a Gasolin-Stove

For economy and convenience, I desire to call the attention of doctors especially to gasolin-cookstoves. There is no smoke nor heat; but for rapidity of work probably electricity is its equal. By the time a wood or coal fire is well started, coffee and oat-meal, soft-boiled eggs or beefsteak are on the table, ready to eat, from the gasolin-stove. I have a four-hole stove, and would not part with it for a thousand dollars, under obligation not to secure another. Gasolin is not cheap here; yet, it costs me less than ten cents daily to run my stove, baking and all. And it seems to me that it does ordinary cooking better than other stoves, save electricity.

Dr. E. S. Goodhue, of Hawaii, had a fine contribution on the papaya in *CLINICAL MEDICINE* two years ago—1912—giving information which I omit. He sent me reprints and poems from his own pen, published in medical journals and elsewhere—an interesting literary feast. He contemplated a pilgrimage with his family to this rebel tramping ground, under the delusion that all is peace here, of which I tried to disabuse his mind.

Since writing the above, while waiting an underground mail to send through rebel lines, information reached me from the U. S. Department of Agriculture that Mr. Edward Simmonds had successfully solved the problem of grafting the papaya, with less difficulty than the apple or peach; and that he is experimenting now on the stalks of the wild, practically worthless fruit; which would give a result to stand considerable cold. And it is certain he will succeed, as the stalks are not very dissimilar, the wild growing and forming the same as the cultivated. Mr. Simmonds affirms that the fruit will stand transportation well, shipments having gone from Jamaica to London in perfect condition.

His knowledge passes mine. The mere fresh leaves will render the toughest meat tender in two hours, where he says the natives put all such meat; and that, if juice of the fruit is liberally applied to raw meat, it is reduced to pulp in half an hour; the digestive property far surpassing that of pepsin. He thinks all markets of the United States may be supplied; still, he gives fifteen months as time required to secure fruit, while I get it in eight months.

The efficacy of papayotin caused me to make the fruit experiment, which I have not carried beyond eating the ripe fruit; but the first tough bull beef I have I shall wrap in leaves two hours before cooking. Owing to the acuteness of the war, we have meat less than half the time.

Regarding the Revolution

The rebels besieged Pichualco from the mountain entrances a long time with four or five times the number of the garrison, and moved around a few days ago to the river-side, to the plantation where Dr. Maldonado, my friend (photograph in January, 1913, *CLINICAL MEDICINE*), lives with his family; the garrison unexpectedly attacking them with such deadly fury that they took refuge in the house, a big three-story brick. The rebels claimed to have 600 men, the day before the combat. The federal force was too small to make the investment perfect at all points, so that 150 rebels escaped, those not dead nor too badly wounded to flee, without a horse, baggage or hope, arranging a terrible explosion in the house, distracting the attention of federals momentarily from observing that the escape was made over a bluff from the riverside of the house. The federal loss was less than a dozen men. It is said the Doctor and his family were in a cellar throughout the ordeal of four hours.

We are in the gloom of midnight, with no prospect of peace.

[This article was written some months ago, its publication being delayed. We have just received another most interesting paper from Dr. Gray which we hope to publish next month.—ED.]



What Others are Doing

DIAGNOSING MASTURBATION IN GIRLS

The following ingenious method of diagnosing masturbation in young girls—older ones, too, perhaps—is described by Bernard Kaufman in *The New York Medical Journal* for October 18, 1913, page 772:

Secure a specimen of the child's urine and examine carefully for exclusion of the presence of yeast. This done, direct the mother to give the child some yeast, made up fairly soft, to play with just before it goes to bed. Then, without allowing the girl to wash her hands, put her to bed, putting her in a shortened nightgown. Next morning she is to collect the child's urine in a carefully cleansed vessel and promptly bring it to the physician's office. This urine then is centrifuged, and if the yeast fungus is found in it, the author says, it is proof positive of the practice of masturbation.

The difficulty with assuming this an infallible test lies in the fact that even accidental touching of the genitals, which may occur to the most healthy-minded youngster, would lead to yeast contamination. A series of these tests should be made, and then the girl should be examined for worms or other possible causes of itching or irritation before pronouncing a "positive" diagnosis.

BACTERIN TREATMENT OF ACNE

An interesting contribution to the treatment of acne was made by Jessie W. Fisher in *The New York Medical Journal* (Sept. 6, p. 469). Omitting Doctor Fisher's references to local and internal treatment, although of interest and value, we call attention especially to her statement that failures with bacterins in the treatment of this disease probably are entirely due to improper dosage; the doses, she declares, being either too large or too frequently given.

As to the size of the doses, the author continues, "we have a guide which those who run may read, namely, the lesions themselves. If fresh lesions crop out within twenty-four hours after the injection, it indicates too large a dose. If no change takes place, or brief

improvement followed by fresh lesions, it is probable that the dose is too small. If an initial improvement is followed by a crop of fresh lesions, the interval is too long and should be shortened."

Doctor Fisher asserts, further, that one of the most frequent errors consists in allowing too short an interval, which does not permit time for the development of the positive phase. She tells of one patient who received no benefit whatever from the bacterin treatment until called away on business for six weeks, during which time no treatment was taken. When he returned at the end of that period, there was improvement of at least fifty to sixty percent. Thereafter the intervals were increased to six weeks, and the case finally progressed to a complete cure.

POTASSIUM PERMANGANATE IN POISON-OAK DERMATITIS

Edward von Adelung (*Interstate Med. Jour.*, Feb. 1913, p. 139) has made an experimental study of the dermatitis caused by poison-oak (*rhus diversiloba*). He comes to the conclusion that the poisoning is purely local; that the poisonous substance is nonvolatile; and that potassium permanganate, locally applied, is curative, probably acting by combining chemically with the toxin, the medicament being of greatest value when applied early and when the papules of the vesicles are opened by vigorous scrubbing.

The procedure followed by Dr. von Adelung is as follows:

First remove all the poison from the skin by thorough scrubbing of the entire body, especially the hair, with soap and hot water; then fresh clothing should be put on, rejecting even the shoes worn in the vicinity of the plants. Itching is relieved by applications of water as hot as can be borne. The most valuable remedy for local application, the author asserts, is potassium permanganate, although hot bichloride packs are of much value. When the vesicles become infected with bacteria, the dermatitis assumes a different character and calls for antiseptic and bactericidal treatment.

There is little doubt that other forms of rhus poisoning, particularly with rhus toxicodendron (poison-ivy), will respond favorably to the same treatment.

BACTERIN TREATMENT OF ERYSIPELAS

Fisher (*N. Y. Med. Jour.*, Sept. 6, 1913, p. 469) quotes Ross and Johnson as saying that "a vaccine prepared from the streptococcus erysipclatis, properly administered, exerts a specific and controlling influence on the course of the disease, preventing its spread, lessening its severity, and hastening recovery." The writer declares that the preceding statement is an accurate one, providing the vaccine is administered as soon as the diagnosis is made, but not as a last resort.

A guide to dosage is found in the severity of the infection and the clinical resistance of the patient. "*The more severe the case and the less satisfactory the clinical resistance, the smaller the dose.*"

She begins with a polyvalent stock bacterin, giving 10,000,000 bacteria in severe cases, double that amount if the case is seen early, when the symptoms are mild, and 5,000,000 bacteria in twenty-four hours if the case shows no improvement. Should improvement be noticeable, the initial dose may be repeated every forty-eight hours and gradually increased. The treatment is continued until a week or ten days after the temperature is normal and the blush has disappeared.

STERILIZATION OF ALKALOIDAL SOLUTIONS

At the meeting of the German Society of Naturalists and Physicians, Mossler read an interesting paper upon the effect of heat in sterilizing the principal alkaloids. (See *Apotheker Zeitung*, 1913, 28, 786.)

First, as regards morphine.

Morphine hydrochloride, when alkalis are absent, develops a faint yellow color when sterilized. However, decomposition is so slight that it may be disregarded for all practical purposes, and this change may be still further reduced by first adding just a trifle of hydrochloric acid to the solution. Morphine acetate shows considerably more alteration when similarly treated.

Codeine and dionin may freely be heated up to 115° C. Heroin hydrochloride, however, liberates acetic acid when boiled as well

as in tyndalization (i. e., repeated sterilization). Apomorphine hydrochloride develops a very marked color even on tyndalization and must, therefore, be sterilized by filtration.

Cocaine hydrochloride does not decompose readily at 100° C., but, if the temperature is higher than this or if subjected to tyndalization, there is considerable dissociation. Stovaine also may be heated to 100° C., showing only slight decomposition at that temperature. Atropine salts are very sensitive to the action of heat and cannot safely be sterilized by boiling.

Atropine sulphate is not affected by tyndalizing, and only to a slight degree when heated up to 100° C., so that extemporaneous sterilization of its solution by boiling is permissible.

Solutions of quinine dihydrochloride and of cotarnine hydrochloride show only a slight deepening of color at 115° C. Pilocarpine solution bears a temperature of 100° C. well, but at a higher point the alkaloid begins to change to isopilocarpine. Physostigmine salicylate can be sterilized only by filtration; heating and tyndalizing cause decomposition.

IMPROVEMENT IN THE X-RAY-TUBE

From a number of sources we learn that an improvement has been made in the x-ray-tube, one which by many is considered the greatest advancement in the improvement of the application of this method since the first discovery by Roentgen. From the *London Medical Times* (Jan. 10, 1914, p. 30) we quote as follows:

"The inventor is Mr. William Coolidge, of Schenectady [N. Y.], who is employed in the General Electric Company's laboratories. He has been working secretly at these new rays for three years and thus far has perfected only two tubes. His method of production differs from the old one and enables him to secure such efficiency in control and application that great benefits to therapeutics are expected as soon as the technic of the new method is thoroughly understood. The Coolidge tube, it is explained, will not cheapen the cost of production, but its use will enable operators to control absolutely the power they wish to administer.

"In the old x-ray-tubes, the cathode and anode are of different materials. Mr. Coolidge has discovered that better results come from the use of tungsten throughout, and that ductile tungsten—a recent discovery—is best; the scarcity of the latter, however,

has retarded his progress, and more must be manufactured before his method of ray production can be of general practicability. The anode in the Coolidge tube consists of heavy tungsten, while the cathode is of light tungsten. In the new tube, there is no fluorescence. Streams of charged particles from the tungsten anode and cathode, which are heated in a vacuum, are driven by a powerful electric current, and the ray is formed; it is more or less penetrating in proportion to the speed with which the particles are driven.

"The new method of producing the rays is expected to be of great value in treating cancer and similar diseases, owing to the certainty with which it can be controlled; but much work remains to be done, and it will probably be some time before it will be in anything like general use."

INTESTINAL KINKS AND AUTOINTOXICATION

Of peculiar interest to the editors and readers of *CLINICAL MEDICINE* is the remarkable revival of interest in intestinal auto-intoxication, due to the work in this special field inaugurated by Sir W. Arbuthnot Lane. Many papers upon the topic are being published in English and American journals, mainly, however, by surgeons.

According to Lane and his followers, fecal stasis and the resulting toxemia very frequently are due to obstruction of the intestine, caused by the constriction of bands, kinks or adhesions that narrow the lumen of the bowel and delay the fecal current. Such slowing of bowel movement favors undue multiplication of bacteria, and the migration of these organisms and seepage of their toxins into surrounding tissues, thereby setting up low-grade inflammatory processes which eventually are responsible for the development of more adhesions and further narrowing of the lumen of the intestine.

Irving S. Haynes, in a paper in *The New York Medical Journal* (Jan. 10, 1914, p. 58), shows that the symptoms resulting from these intestinal kinks are dependent upon three intimately associated factors; namely: (1) interference with the motor function of the bowel; (2) disturbances in digestion and absorption; and (3) effects of peritoneal irritation and inflammation. Patients thus affected complain of obstinate constipation, of severe cramping pains, of mucous colitis, together with attacks of diarrhea, of digestive disturbances and troublesome generation of gas (a symptom complained of by nearly all these

patients), anorexia, and nausea, but rarely of vomiting. Other resulting symptoms are: malaise, loss of weight, pigmentation of the skin, nervous symptoms (usually called neurasthenia), and there also are periodical headaches, weakness, and prostration.

The medical treatment should consist practically of a meat-free diet, the chief articles of food being fruits, vegetables, and cereals. Buttermilk is permissible, but fresh milk often causes indigestion. Oils of various kinds may be taken freely, and water should be consumed in large quantities. Haynes also declares (l. c., Jan. 17, p. 121) that the liquid petrolatum, so enthusiastically advocated by Lane, has been a disappointment in his hands. Patients become disgusted with it and cannot be persuaded to take it for any length of time. He suggests, though, that a useful substitute for the liquid petrolatum would be solid petrolatum taken in capsule form. In virtually all cases, he seems to advocate surgical intervention, all adhesions, membranes, kinks, and the like that constrict the bowel at any point to be removed. In 21 cases operated upon, 18 patients were cured, while 3 were improved.

CHRONIC INTESTINAL STASIS

The New York Medical Journal for January 24, 1914, contains papers upon the subject of intestinal stasis by Bainbridge, Quimby, and Hayes, everyone of which is of extreme interest. Bainbridge, for instance (page 154), divides cases of this nature into three groups. In the first group, surgical intervention is not necessary; diet, posture, exercises, a properly fitted belt, and suitable medicinal treatment being sufficient for relief. The second group consists of midway cases, in which it is possible to repair the drainage-system and effect a clinical cure by simple surgical measures. In the third, however, more serious surgical intervention, involving a short-circuiting of the bowel or even actual colectomy is necessary for good results. Bainbridge describes many cases of the second class in which cures generally were effected by the removal of constricting bands and their resulting kinks.

Quimby's paper, in the same number of *The New York Medical Journal*, deals with the roentgenological examination. Preliminary to the examination, all enemata, cathartics, laxatives, and oils should be withheld. Then he administers from 4 1-2 to 6 ounces of bismuth, depending upon the height and weight of the patient. The bismuth meal is followed through the patient by roentgeno-

logical examinations at definite periods, a complete inspection requiring from six to ten visits and lasting from three to six days. About 50 percent of subjects will evacuate the entire bismuth mass in fifty-four hours. Of the remainder, 30 percent will be rid of it in 78 hours; 15 percent, in 102 hours; while in 5 percent this period will extend beyond that.

Quimby's experience has revealed some very interesting facts relative to the mechanics of bowel obstruction and the points at which kinking or constriction is most likely to occur.

Thus, the first point is at the lesser curvature of the stomach; the next is at the junction of the first and the second portion of the duodenum; the third, at the junction of the duodenum with the jejunum; and so on through the length of the canal. Quimby found five special points of obstruction in the colon alone. Stasis in the cecum is very frequent, being the result of several mechanical factors.

ILEAL STASIS

Another paper in which the ideas, theories, and methods of treatment advanced by Lane, of London, are discussed, is contributed by Harold W. Baker and Donald V. Baker to *The Boston Medical and Surgical Journal* for February 12. In this paper, the authors named take up particularly intestinal stasis affecting the upper portion of the bowel—the ileum.

Stasis of the ileum may be caused by chronic appendicitis, by an ileal kink, a congenital membrane or by an incompetent ileocecal valve. Normally, say the authors, putrefaction never takes place in the small intestine; but passage of the food mass may be delayed as the result of obstruction, when decomposition occurs and toxic absorption follows. Gradually this process involves a larger portion of the ileum and jejunum; and the duodenum, gall-bladder, and stomach at last also suffer. The duodenum is found markedly distended, the mucosa congested, there is bacterial invasion of the biliary and pancreatic ducts, and the long catalog of symptoms recorded by Lane and his followers is likely to follow.

In the diagnosis of these cases, the x-ray is resorted to after a bismuth meal. In this way, the degree of stasis can be determined, and usually the location of the constricting point.

According to the authors, much can be accomplished by means of proper medicinal treatment. For the relief of the constipation—which, after all, is the essential factor—they recommend a bulky diet and the use of agar agar and liquid petrolatum. The protein intake should be reduced. He asserts, also, that the use of the bacillus bulgaricus decidedly helps to diminish autointoxication.

Surgical treatment is indicated only when the medical treatment has failed and a true lesion is known to exist. Whenever a patient suffers from chronic constipation and autointoxication, the Doctors Baker declare that a thorough x-ray examination should be made by an expert roentgenologist.

THE SYMPTOMATOLOGY AND TREATMENT OF INTESTINAL STASIS

A very complete résumé of the symptomatology of intestinal stasis is presented by W. V. Hayes (*N. Y. Med. Jour.*, Jan. 24, p. 170). Most interesting is the long array of symptoms and signs given by Lane, which are carefully summarized, including a long list of "diseases" and complaints of various kinds. Among these symptoms are enumerated, for instance: headaches, which are exceedingly frequent; rheumatic aches and pains; degenerative changes in the breasts, heart, and kidneys; prolapse of organs; loss of hair; gall-bladder infections; degenerative diseases of the eye; pyorrhea; rheumatoid arthritis; changes in the thyroid gland, and many more.

However, the symptoms most frequently observed by Hayes are: weakness, loss of weight, headache, nervous irritability and emotional states, lack of concentration, drowsiness, insomnia, poor circulation, palpitation, cold hands and feet, constipation, soreness of joints. And in those cases where there are gastric complications: bad taste, belching, regurgitation of food and acid fluid, erosion of the teeth, pain between the shoulder-blades, nausea and vomiting.

Ulcer near the pylorus has been a rather frequent complication.

The marked physical signs have been: pallor, with or without anemia; a sallow color or slight pigmentation of the skin; cold moist hands and feet. Also the following abdominal signs: (1) Dilated duodenum, often associated with gastric stagnation or distention. (2) "Pressure paradox" the escape of gas from the dilated duodenum (often possible to hear and feel) obtained by pressure backward

and upward for about thirty seconds by the hand placed just below the umbilicus, the patient being in a semirecumbent or reclining position. (3) Inflated ileum, shown by a marked tympanic note to the left of and below the cecum. (4) Corded colon, which may be felt as a rope-like body directly beneath the abdominal wall.

As to treatment, Doctor Hayes advises a bland laxative diet, containing a minimum of protein and little material prone to ferment. Exercises are advised that will strengthen the abdominal wall, and correct habits of carriage are insisted upon. He says that a suitable belt, corset or spring support is indispensable in most instances, and that these should be carefully adjusted below the umbilicus, to give pressure upward and backward.

As to medication, the principal indication is for bland laxatives. Like most writers upon this subject, Hayes follows the advice of Lane, in placing Russian mineral oil of superior quality as first in this category. Other laxatives advised in suitable cases are: agar-agar, phenolphthalein, laxative salines, and cascara, with an occasional dose of calomel. All drastic purgatives, such as colocynt, podophyllin, and the like, are contraindicated. Like other writers upon this subject, Hayes calls attention to the value of surgical intervention in many of these cases, although he declares that "surgery is not to be thought of in the great majority of instances."

These reports of one of the great current medical movements of the time are of special interest to readers of CLINICAL MEDICINE, because of the insistent teaching of this journal for so many years. Never for a moment have we relaxed in our insistence upon the vital importance of the intestinal canal as a factor in the generation of disease—in our belief that in intestinal toxemia is to be found the *fons et origo* of a considerable percentage of the maladies from which most people suffer.

The ideas of Lane and his followers in the main are supportive of our own opinions, although at the present time there is an overfondness for resort to surgical operation for the relief of conditions that, in our opinion, can very largely be relieved by the clean-out, clean-up and keep-clean policy which this journal has preached for so many, many, years. If to the dietetic restrictions and hygienic advice we add the use of proper laxatives and of intestinal antiseptics calculated to modify or prevent the putrefactive processes, we firmly believe that most victims

of this class can be saved from the operating table.

LUMINAL AS A SOPORIFIC

Luminal, one of the newer synthetic somnifacients, has been given a fair trial by G. Lomer and he does not appear to be highly enthusiastic over it. His conclusions (*Psych. u. Neurol. Woch.*, 1912, No. 42) are to the effect that, indeed, luminal may substitute other narcotics, and even at times prove superior; still, in a rather large percentage (one-third) it displays disagreeable side-effects, quite as much as do the older ones, and, hence, must be administered with great caution. Moreover, he found that at least some patients quickly require augmented dosage.

RADIOACTIVE WATER FOR ALVEOLAR PYORRHEA

In an experience with 16 cases of alveolar pyorrhea, F. Dautwitz (*Wien. Klin. Woch.*, 1913, p. 813) claims to have seen more favorable results from radioactive water than from any other remedy. He employed irradiated water with 1,000,000 M.-E. emanation content, and the cure required about three weeks.

Several times a day the patient had to rinse his mouth thoroughly with a few drams of the water, continuing (with rests, and breathing through the nose) for two or three minutes. Then cotton pledgets wet with the water were placed between the gums and cheek where infection was worst, leaving them in place for some fifteen minutes.

OIL-AND-ETHER RECTAL ANESTHESIA

Some time ago *The New York Medical Journal* published the account of a remarkable innovation in anesthesia introduced by J. T. Guathmey, of New York. Now, in *The Lancet*, (London) for December 20, 1913 (p. 1756), we find another paper upon the same subject by Doctor Guathmey.

This new method of anesthesia consists in introducing into the rectum very slowly a mixture of ether and olive-oil. It has been demonstrated in about 100 cases, the ages of the patients ranging from 4 years to 71 years.

The advantages claimed for it are as follows: (1) The element of apprehension and fear caused by placing a mask over the face is avoided; (2) no expensive apparatus is required; (3) the after-effects are reduced to

a minimum; (4) a more complete relaxation is secured than with any other known method; (5) the limits of safety are widely extended, as compared with other methods; (6) a more even plane of surgical anesthesia is automatically maintained than is possible by any inhalation-method—unless administered by a skilled anesthetist using a perfected apparatus.

Not only can this form of rectal anesthesia be used alone, but it is well adapted for combination with a volatile anesthetic. Doctor Guathmey asserts that nitrous oxide and oxygen can be administered in conjunction with it in a larger number of cases and with less discomfort; also a smaller amount of ether may be employed by inhalation; and, when the combined method is employed, a smaller amount of the oil-ether mixture, or a lower ether-percentage, can be injected into the rectum, with the same satisfactory result.

Doctor Guathmey ordinarily uses a mixture of 75 percent of ether with 25 percent of oil; the quantity employed depending upon the size, age, and general condition of the patient. His rule is, to use 1 ounce of the oil-ether mixture for every 20 pounds of body-weight. Thus, for an adult weighing about 160 pounds, 8 ounces of the anesthetic would be required. This is the usual dose for the average patient. For children, a weaker mixture and a smaller quantity suffices. Thus, in children under 6 years of age, Doctor Guathmey employs a 50-percent solution; again allowing 1 ounce for every 20 pounds of weight. With older patients, the strength is gradually increased up to the 75-percent mixture as a maximum.

In addition, he generally introduces into the rectum, thirty minutes before operation, 5 grains of chloretone dissolved in 2 drams of ether and mixed with an equal amount of olive-oil. At the same time he gives, hypodermically, 1-8 to 1-4 grain of morphine, with 1-100 grain of atropine; the larger dose being indicated only in the case of athletes and alcoholics.

The apparatus required is very simple, being a small catheter and funnel, two small rectal catheters inserted side by side, and a towel placed over the face from time to time to prevent the dilution of the anesthetic in the air-passages. When the patient is satisfactorily narcotized the towel is withdrawn.

The mixture (2 ounces of olive-oil and 6 ounces of ether) is given with the patient lying in bed on his left side, in the Sims' position, a convenient lifter having previously been placed under him. It is not always necessary

that he know that an anesthetic is being administered.

A small catheter, well lubricated, is then inserted 3 to 4 inches within the rectum, and to this catheter a funnel is attached. The mixture then is poured into the funnel very slowly, taking at least five minutes for eight ounces, the usual amount. It is best not to withdraw the tube until the patient is partly unconscious and the muscles are relaxed. From five to twenty minutes (according to the percentage used) should be allowed for the anesthetic to take effect before the patient is moved. Should signs of cyanosis or other disagreeable symptoms appear, 2 or 3 ounces of the mixture should be withdrawn through the small rectal tube. After the operation is completed the rectum is irrigated with cold soap suds, injected into one tube and withdrawn through the other, then 2 to 4 ounces of olive oil is introduced into the rectum and the tube withdrawn.

MORE EXPERIENCES WITH THE BACILLUS BULGARICUS IN THE DIARRHEAS OF CHILDREN

Considering the severity of the cases treated, the results obtained by J. F. Sinclair (*Arch. Pediat.*, July, 1913, p. 529) in the management of 32 cases of acute gastroenteritis and acute ileocolitis are really very remarkable. The children treated ranged in age from 17 days to 2 years. Of the 20 cases of gastroenteritis, 1 was of a mild type, 17 severe, and 2 toxic. All of 12 patients suffering from ileocolitis were desperately ill, with the exception of 4. Several patients were moribund when treatment was begun. Of these 32 patients, 5 died, while 27 recovered.

The essential feature in the treatment of these cases was the use of the bacillus bulgaricus. Under its use, the putrefactive process disappeared and the stools became normal within five days, on the average, while in 7 of the 12 cases of ileocolitis the putrefactive process disappeared entirely and the stools became normal within nine days, on the average. In the entire series of 32 cases, 16 of the children showed an average loss of 8 7-8 ounces, while 12 had gained an average of 6 1-4 ounces at the end of the first week. In the other 4 cases, the weights were not obtainable. Virtually all those who recovered showed a gratifying gain in weight upon their discharge.

In addition to the administration of the bacillus lactis bulgaricus, Doctor Sinclair also

gave an initial dose of castor oil and employed colon irrigation or gastric lavage with normal salt solution, as occasion demanded. Stimulants and other medication were administered as necessity arose. The diet was restricted, most children being put on water or tea, a few being given barley-water, albumen-water or other simple liquid foods of this character. In a few instances, soy-bean gruel was used, while several infants received whey, wine-whey, whey and cream mixture, and buttermilk conserve. In the modified-milk mixtures employed, various diluents were used, sodium citrate being added in some instances.

THE CHEMISTRY OF A CUP OF COFFEE

An editorial writer in *The Lancet* (Nov. 29, p. 1563) gives an interesting résumé of the chemistry of coffee infusion. While tea contains from three to four percent of caffeine and coffee seldom more than one percent, the two beverages are not unlike in alkaloidal strength, since more coffee is required in preparing a cup of its aromatic infusion than are tea leaves for making a cup of tea.

The writer further points out that the caffeine in tea is present in quite different form than that in coffee. In the former, the alkaloid is combined with tannin as caffeine tannate, which is easily soluble in hot water, but not readily so in cold water. In coffee, on the contrary, the caffeine is combined with a peculiar acid, known as cafetannic acid, being allied to tannin, but exhibiting properties different from the tannin present in tea.

This cafetannic acid is not particularly astringent, possesses a sour, coffee-like taste, does not coagulate gelatin, does not make coffee thick as does ordinary tannic acid, nor does it precipitate alkaloids, such as quinine; while, what is of still greater importance, it renders the coffee soluble both in hot and cold water and in acid as well as in alkaline media. As a consequence, the coffee infusion is probably absorbed both from the stomach and intestine, while tea is absorbed only from the bowel; and therefore coffee probably acts more promptly than tea as a stimulant and restorative.

The use of strong coffee as an antidote in poisoning by narcotics is of interest in this connection. Tea also is mentioned for the same purpose, but only rarely.

It is interesting to learn that chemically there is little difference, as regards caffeine strength, between coffee extracts made with

cold and with hot water; but, of course, the latter are more palatable. It is probable that cold water fails to extract certain oily bodies, or fats, which contribute the attractive taste and aroma.

The chemistry of roasting amounts largely to a process of caramelizing, during which certain oils and various aromatic principles are produced through destructive distillation. Roasting diminishes considerably the amount of cafetannic acid. As the writer says: "What part cafetannic acid plays as a dietetic constituent of coffee it is difficult to say, but, if it should prove undesirable, then the high-roasted coffees are less open to objection."

There is little difference between common and the high-grade coffees so far as chemical composition of their infusions is concerned. The percentage of caffeine is about the same in the different varieties, but it is probable that the esthetic values are related in some way to the quantities of the oil bases or aromatic principles present, which vary somewhat in the different brands.

Coffee has practically no food value, of course. However, by diminishing nervous fatigue, chiefly by virtue of the caffeine present, it may increase muscular power. The *Lancet* writer believes that the use of the infusion after dinner is justified in many instances through its stimulant action upon the vital centers. It is said to serve somewhat as an antidote for alcohol and to remove drowsiness. Still, in many subjects coffee may produce drowsiness, quickly followed by marked wakefulness.

REMOVAL OF TATTOO MARKS

Peller (*Dermat. Zeit.*, quoted in *The Pharmaceutical Journal* for September 27, 1913), recommends a new method, devised by himself, for removing tattoo marks. The permanency of pigment granules in the skin in tattoo marks, he states, depends upon two factors: (1) their encapsulation; (2) their distance from lymph paths, especially when the pigment has been deposited in the subcutis. Both these factors tend to frustrate the action of phagocytic cells as well as of transference of the pigment to other parts of the body—for example, to the lymph-glands.

The relative depth of the pigment deposit has always had a very important bearing upon the results of efforts toward its removal: the more superficially the coloring-matter is imbedded, the more easily it can be removed. This, of course, provided there are not further

unknown deposits in the subcutis, which upon decortication and subsequent thinning of the epidermis by caustics, snow or the like, and by the efflux of serum toward the surface, become revealed only at some later date.

The author's method is, to give several preliminary (about six) injections of fibrolysin, with the idea of counteracting the intracutaneous fibrosis brought about by the pigment deposit. He then introduces, as far as possible into the pigment stratum and along the lines of most obvious distribution several sharp-edged needles carrying threads previously steeped for several days in a 50-percent silver-nitrate solution. These threads are brought to the surface beyond the pigment-area, and are allowed to remain, covered with hot fomentations, for two days.

Two conditions of elimination along scientific lines are thereby established: (1) the production of an acute inflammation localized to the pigmented area; and (2) the establishment of artificial channels that open up new lymph paths for phagocytic invasion. The results thus far obtained have been eminently satisfactory and justify the author in recommending the method for more extended trial.

THE HIGH-PRESSURE BOGEY

While the sphygmomanometer is a useful instrument when properly handled, Solomon Solis-Cohen declares (*Med. Rev. of Rev.*, Feb., 1914, p. 73) that, all things being considered, it is not to be compared with the *tactus eruditus* of the experienced physician. Mere dependence upon the fact that the patient has a high blood pressure too often leads the clinician to the use of remedies for the reduction of the pressure, without consideration of the conditions causing it.

As a matter of fact, all the attending circumstances should be taken into account and the cause and effect of the symptoms determined before any form of treatment is undertaken. Doctor Solis-Cohen tells of a woman—one of his patients—with a leaky and irregular heart, who had gone along for some twenty years comfortably with relatively high blood pressure, partly induced by medicinal doses of digitalis.

During the author's absence from the city, one time, another physician was called, who felt alarmed because of the compensatory pressure of 170 mm., and administered veratrum viride. A fatal ending was with difficulty averted as a result of the dependence upon this symptom. "High blood pressure,"

says Doctor Solis-Cohen, "systolic or diastolic or both, is dependent upon many other factors than hardening of the artery or toxic increase of arterial tension; and all these factors must be taken into consideration in estimating both its cause and its significance."

THE MEDICAL TREATMENT OF CHOLELITHIASIS

The attitude of the medical profession is changing rapidly with regard to cholelithiasis. A few years ago the physician who suggested that there might be a medical treatment for this disease was scoffed at—the only thing to do was to send the patient to the surgeon and have the gallstones cut out. That this attitude is passing, is clearly shown in a scholarly paper by H. B. Anderson (*Can. Med. Assn. Jour.*, Jan., 1914, p. 1), who declares that attention is now being directed much more to the fundamental factors of *biliary stasis, infection, and inflammation*, rather than toward the secondary results of these pathologic conditions—the calculi.

Doctor Anderson declares that where good drainage can be secured, so that the stasis, inflammation and infection are relieved without operation, the surgeon's services will not be needed; in other words, so long as the gallstones are present and cause no serious local irritation, they need not give rise to anxiety. On the other hand, if the gallstones continue to excite irritation and the symptoms of infection do not subside, then operation clearly is indicated. Nor is it absolutely certain, as has been held for years by the authorities, that gallstones can not be dissolved. Anderson quotes recent investigations by Hansemann, which have reopened the question. The latter investigator apparently has proved, by experiments *in vitro* and by transferring gallstones from human beings to dogs, that the calculi "are soluble in normal bile," particularly those composed largely of cholesterol. At any rate, whether they are capable of absorption or not, in more than 90 percent of all cases, as Anderson points out, the gallstones cause no dangerous symptoms; and certainly under such conditions medical treatment has a rational basis and operation is unwarranted.

Gallstones are results, and not causes. The duty of the physician is, to treat causes so far as possible; the more so, since the mortality from gallstone operations is very considerable, ranging from 2 1-2 percent in Mayo's series of 4000 cases to 17.7 percent in the

cases collected by Bland Sutton from English hospital reports.

The nonoperative treatment having the widest vogue is the so-called Carlsbad cure or some modification of it. This treatment consists chiefly in the copious ingestion of hot alkaline waters, in conjunction, sometimes, with rectal injections of hot water. As to other measures, according to Doctor Anderson, the bile-salts and salicylates should be used for their cholagog effects, and urotropin, as a biliary antiseptic, generally proves of considerable value.

It seems to us hardly necessary to add that the method of treatment so long advised in this journal, namely, that of sodium succinate in association with the bile-salts and boldine, is deserving of careful investigation at the hands of the new school of which Anderson is a representative. That this treatment has proven effective, is shown by the experience of many physicians who have employed it with success.

THE ATROPINE TREATMENT OF SEA SICKNESS.

In recent numbers of *The Lancet*, there have appeared several brief articles suggesting the use of atropine in seasickness. For instance, Reginald Pollard states (*Lancet*, Jan. 10, 1914, p. 147) that he has found the hypodermic injection of this drug the most reliable cure he has ever tried. When called to a bad case of *mal de mer*, his plan has been to give 1-100 of a grain of atropine sulphate, repeating this dose, if necessary, in an hour or two. He asserts that often the sufferer will sleep for a few hours (possibly because he has not slept for some time) and then comes on deck and has no return of nausea.

This suggests the combined atropine and strychnine treatment for seasickness so often referred to in these columns and found so successful in many instances. May we be pardoned for referring again to the remarkable success obtained by Davis (a ship-surgeon) with cactoid, as reported recently in these pages?

THE EFFECT OF LACTIC-ACID BACILLI IN DIPHTHERIA

In August last, Wood reported in *The Journal of the American Medical Association* the very satisfactory results obtained in the treatment of diphtheria and diphtheria-carriers with sprays of lactic-acid bacilli. In the February 14 number of the same journal,

page 510, Nicholson and Hogan report 9 cases treated at the Baltimore Municipal Hospital for Infectious Diseases with the buttermilk organism. In a part of these cases, the throat was sprayed with pure cultures of the lactic-acid bacilli of the Bulgarian type; in several, sour milk was used as a spray. The results obtained were very satisfactory—"more pleasing than those from any other methods at our disposal," say the authors.

A small atomizer was employed to distribute the cultures in the nose and throat in 4 cases, while in 5 cases sour milk was used as a gargle for the throat and as a spray for the nose. No antiseptic of any kind was employed. The antitoxin treatment was resorted to in all these cases, the lactic-acid sprays and gargles being employed to clean up the throat after recovery from the acute symptoms. In every one of the 9 cases so treated, the clearing of the throat came about very rapidly, negative cultures being obtained within from one to four days after this treatment was begun.

A CHARACTERIZATION OF TRUE (BRONCHIAL) ASTHMA

Privatdozent Carl Staebule, of the University of Basle, in a contribution to the *Muenschener Medizinische Wochenschrift* (1913, No. 3), presents a clear characterization of true asthma (that is, the bronchial type, as distinguished from those reflex dyspneas designated as cardiac, nervous, anemic, uremic asthma, to mention the more common ones) that seems worthy of reproduction for its terseness.

In substance, Staebule says: Asthma is based upon a congenital [inherited] constitutional susceptibility, which consists in a hyperirritability of certain nerve-centers innervating the bronchial musculature and mucosa and intimately connected with the respiratory processes. The bronchospastic and vasomotoric-secretory contraction of the bronchi, in subjects thus burdened, is initiated through many kinds of influences, whereby emptying of the alveolæ is rendered difficult. This leads to a diminution of the pulmonary aeration to the lowest limit of "vital capacity," at the expense of the "complementary" air volume breathed; the residual air is increased (emphysema); and the air-hunger grows. Among the factors inaugurating the attack, the following are included: reflex irritation emanating from the respiratory, gastroin-

testinal, and genital tracts, from the skin, or from the climate or psychic excitement of any kind.

EMETINE IN DYSENTERY

"Emetine as a specific for amebic dysentery and amebic hepatitis," says the editor of *American Medicine*, "is probably the most important therapeutic discovery in recent decades."

That this statement is true, is now becoming generally recognized in America, the same as abroad, where the treatment has been much more extensively employed than it was in this country. However, we are pleased to see that American physicians are at last alive to the importance of Rogers' great discovery.

In three recent numbers of American weekly medical journals, we find as many articles upon the use of emetine in dysentery. The first, and most important, of these is contributed by Edward B. Vedder, of the U. S. Army, to *The Journal of the American Medical Association* (Feb. 14, 1914, p. 501).

Vedder, it will be recalled, made the tests which demonstrated the amebicidal properties of emetine, these experiments leading Rogers to try out the drug clinically. Thus in 1911, Vedder showed that a solution of emetine, in the strength of 1 : 100,000, would destroy the amebas *in vitro*. In June of the succeeding year Rogers decided to use the drug hypodermically in treating amebic dysentery. Soon afterward he reported two cases of the latter disease and one of acute hepatitis that had been cured with this drug.

Vedder's article gives a splendid résumé of the results obtained with emetine since that time. He shows that, out of 110 cases treated by this method, as reported by 22 observers, 99 of the patients were clinically cured, while 11 died. Of the 11 who died, virtually every one was moribund or beyond help when the treatment was instituted. In 16 cases of amebic hepatitis treated with emetine, as reported by 9 observers, every one was cured. As to the permanency of the cures effected, it is too early, of course, to say; still, it is a significant fact that when the symptoms do recur they are promptly removed by a repetition of the treatment.

In order to prevent the possibility of reinfection, Captain Vedder recommends the use of repeated high colon irrigations with a quinine salt or silver nitrate. This is of special importance, in view of the fact that the disease probably is disseminated by carriers, and these irrigations seem to be the

most certain method of ridding the bowel of the amebic organisms.

The dosage of emetine hydrochloride recommended by Vedder is 1-3 grain, to be given hypodermically three times a day for about ten days. In this manner a large amount of the drug can be administered without inducing serious inconvenience of any kind. Vomiting has never been reported from the use of emetine in this dosage, and the patients feel no general disturbance.

After such a course, if the patient is clinically cured, the treatment should be suspended and the patient's stools watched for the entamoeba histolytica. Recurrence of the symptoms should be the signal for the prompt institution of a fresh course of the same treatment. The tremendous doses sometimes employed by physicians are believed by Vedder to be entirely unnecessary, and he points out that, used in such dosage, the drug even may prove toxic. At any rate, due caution should be exercised in its administration.

DYSENTERY CURED WITH EMETINE

That cases of dysentery arising in temperate climates are not uncommon, and that some of these (whether amebic or not) may be amenable to the action of emetine, is the moral of a report made by Vere G. Webb in *The Lancet* for January 3, 1914 (p. 74).

A man of 30, who had never been out of Great Britain, consulted Doctor Webb for a diarrhea from which he had suffered since childhood. The stools were putty-colored and varied from five to fifteen a day. He suffered from pain and tenesmus and had attacks of bloody stools lasting for weeks at a time. Various diagnoses had been made by different physicians, none of whom had been able to give him any permanent relief.

Thinking that the case might possibly be one of amebic dysentery, Doctor Webb began giving this patient hypodermic injections of emetine hydrochloride, 1-2 grain of the drug being administered for six consecutive days. After the second dose, the number of the stools dropped to one a day and became normal in color and form. At the end of the six days, the improvement was most remarkable. This condition of health has continued, the patient having gained ten pounds in weight. Only on four occasions in more than two months following this treatment has he had more than one evacuation daily. The emetine was the only remedy employed. Doctor Webb is not certain that this was a

case of amebic dysentery; but, even if it is not, he suggests that the drug should be tried in many similar conditions in which the diagnosis is not clear.

CALCIUM AND IODINE IN PNEUMONIA

The leading paper in *The British Medical Journal* for January 10, 1914, is a discussion of pneumonia, by Sir James Barr. Among the many good things in this paper deserving pondering over is his statement that the lime salts are the best remedy to limit the spread of this disease. Sir James declares that, in the acute stages of pneumonia, the more scanty and the more sticky the expectoration, the more viscid the blood and the more lime salts and leukocytes it contains, the more favorable the prognosis.

On the other hand, if the blood is fluid, the expectorate hemorrhagic, and the calcium salts and leukocytes are scanty, the prognosis is poor. This being so, the free use of calcium is advised; such a course also aiding in the maintenance of cardiac contraction and muscular tone.

In all febrile conditions, the blood rapidly parts with its calcium, and in such conditions it is essential that this element be restored. An examination of the urine serves as a good indicator with regard to the calcium metabolism. If the physician finds the calcium salts deficient in the urine and albumin present, he may safely conclude that both the free and the fixed calcium salts in the blood are deficient; and the sooner they are replenished, the better.

The moral of these observations is, that calcium should be prescribed more freely. Various calcium salts are recommended, among them the lactate, the chloride, and the carbonate; but we were particularly interested to learn that Sir James Barr has had especially good results in pneumonia with calcium iodide and tincture of iodine, particularly in cases of pneumonia complicating bronchial asthma. Possibly Barr's hypothesis (it seems to be more than a hypothesis, rather being a real array of facts) will help to explain the highly satisfactory action of iodized calcium, in the treatment of pneumonia, as reported by many contributors to this journal.

Sir James Barr is also a believer in the use of vaccines, especially as a prophylactic and also during the stage of resolution. The calcium iodide is also employed by him during the stage of resolution, with good results. Heart weakness he combats with strychnine, caffeine, digitalis, and, in extreme cases, with

intravenous injections of strophanthin. The temperature is reduced by applications of the ice-bag to the abdomen, while reflex stimulation is secured by means of mustard poultices applied to the affected side. In troublesome cases of insomnia, he not infrequently secures rest for the patient by the use of hyoscyne, morphine, and atropine.

As regards diet, Doctor Barr claims good results from the use of glucose or syrup of glucose and sugar of milk. Milk is an excellent food, but is not always well digested, and, accordingly, should be well diluted when given.

NOVEL TREATMENT FOR RINGWORM: IODINE AND FREEZING

A method of treating ringworm, certainly simple and rational, and which by its author, C. Hughes Foley (*Lancet*, Jan. 24, 1914, p. 241), is asserted to be effective, is described as follows:

The part, having first been washed with a strong solution of sodium bicarbonate, is next swabbed with a piece of lint moistened with spirit of ether—to remove any grease. When dry, it is painted with tincture of iodine and immediately after an ethyl-chloride spray is applied. The author finds it best to work with a pair of ethyl-chloride tubes in each hand, as he thus covers a larger area in quicker time. The deeper the disease-process penetrates, the longer the spray must be applied. Doctor Foley continues spraying until the integument becomes china-white.

It will be found that in from twenty-four to forty-eight hours the patch of ringworm has become quiescent. Next, little tiny spots should be looked for and these treated in a similar manner. They also will disappear in from a few days to a week. In ringworm of the scalp, three or four applications of iodine and the spray are required, but on the face or smooth surfaces one application suffices.

Doctor Foley declares that by the use of this method he has succeeded in curing in a week cases of ringworm that have persisted for months, and thus far it has never failed.

IS IT HUMAN BLOOD?

Biologic discoveries of recent years have made it much more easy to identify the source of blood than formerly was possible, when we depended exclusively upon the size and shape of the red corpuscles, as revealed by

the microscope, to give us this information. At present there are two well-known and reliable methods for identifying blood, and these have recently been well described by Perrin and Thiry in the *Paris Médical* (Aug. 23, 1913, p. 269), from which we quote.

Anaphylactic Test.—The first of these methods depends upon the anaphylactic reaction, that peculiar property of blood-serums discovered by Richet. This reaction is based upon the fact that an animal into which has been introduced a preparatory injection of blood-serum from an animal of a different kind develops toxic symptoms, after the injection of a succeeding dose of this serum from the same source, providing there is an interval of a fortnight or longer between the two injections.

In examining the blood for medicolegal purposes, the guinea-pig is employed as the test-animal. The first, or preparatory, dose of the suspected substance may be almost infinitely small, so that a blood spot on a garment suffices for material. Such blood may be heated to a temperature of 150° C. without destroying the reaction; neither is its anaphylactic activity impaired by drying, by freezing, by age, or by the different chemical agents an assassin is likely to have at his disposal when he is trying to destroy the traces of his crime.

The anaphylactic test is employed as follows: After being assured that the substance to be examined is blood, it is dissolved in a small quantity of physiologic serum alkalized with soda. In order to obviate infecting the experimental guinea-pig with any microbes possibly present in the blood solution, it may be sterilized by heating in a water-bath.

A series of guinea-pigs is now prepared by injecting under the skin or into the heart of each 1 Cc. of the blood solution to be tested. Fifteen or twenty days (not sooner) after this, the second injection is given, which may be made into the heart or into the veins, as preferred.

This second injection-fluid consists of 1 Cc. of the serum of any one of some unrelated animals, such, for instance, as man, cow, pig, horse, dog, and so on. At the same time control animals are given similar injections, in order to make sure that the serum employed is not of itself directly toxic.

If the test turns out satisfactorily, only that animal will present an anaphylactic reaction (usually resulting in death in the case of guinea-pigs) in which the two sera injected are derived from an identical animal. Thus, for instance, if only that guinea-pig

which received human blood-serum at the second injection became sick or died, then we may assume that the blood being investigated came from a human being.

The same test may be employed to determine the source of every kind of tissue or organ. For this purpose, the piece of tissue tested must be finely comminuted and then macerated for a certain length of time in a slightly alkalized physiologic salt solution. Even when the tissue is in an advanced stage of decomposition the test will be reliable.

Precipitin Test.—The other blood-test in use depends upon the fact that a rabbit treated with the blood of an unrelated animal yields a serum that will cause a precipitate only when mixed with the blood-serum of an animal of the same kind; with all other animals, a lytic (dissolving) action takes place, resulting in a perfectly clear solution. The single exception to this is, that the blood of a monkey produces a slight precipitate with human blood. This test has been evolved from the original work done by Bordet and developed by Uhlenhuth, Wassermann, and Schultze.

Here, as in the case of the preceding test, a very minute quantity of the liquid investigated suffices to elicit the reaction. Wassermann and Schultze advise the following procedure:

1. Remove from the suspected fabric a quantity of the material to be examined by lixiviating with 6 or 8 Cc. of physiologic salt solution; (2) filter the resulting liquid carefully; (3) transfer the filtrate, equally divided, into two sterilized tubes; (4) to one of these tubes add 1-2 Cc. of the serum of a rabbit which sufficiently long prior to this has received an injection of human blood; (5) to the other tube—which is to serve as a control—add 1-2 Cc. of the serum of a rabbit that has not received prior treatment; (6) to a third tube, also intended as a control, add 4 or 5 Cc. of the diluted blood of some other kind of animal (sheep or pig, for instance) to which is added 1-2 Cc. of the test-serum used with the first tube; (7) place the three tubes prepared in an oven, and maintain the latter at a temperature of near 37° C.

Now keep watch of the tubes for about an hour; if at the end of that time there appears in the first tube a cloudiness and then a precipitate, while the contents of the other tubes remain transparent, we may feel assured that the material under examination contains human blood, unless, as rarely happens, there is the possibility that this blood came from a simian.

The sole objection to this method of testing

is, that it requires from three weeks to a month for preparing the test-animals.

Blood-Crystal Test.—Recently a third method of testing blood has been made public, this depending upon the fact that the hematin of different genera of animals does not crystallize in the same way. This test is said to be exceedingly accurate, furnishing a highly refined means of differentiating with great precision between the blood from different animals; and this even when the specimen already is in a state of putrescence.

As long ago as 1840 Huenfeld succeeded in obtaining hematin in crystal form; but, although others have worked on this problem, it was left for Reichert and Brown, both of the University of Pennsylvania, to work it out successfully.

Briefly stated, as described in the Carnegie Institution Report, the method consists in first destroying the coagulability of the blood by adding a soluble oxalate. Then ethyl ether is added, which takes up the hemoglobin of the erythrocytes. After centrifuging, the crystals are obtained upon evaporation of the clear liquid. If the specimen is partly decomposed, a slight modification is necessary. Strangely, the hematin test, while not distinguishing between the blood of monkey, ape and man, distinctly demonstrates the difference of the great races of mankind.

THE MEDICINAL ACTION OF FOODS

In an editorial in *The Lancet* for January 24, 1914 (p. 256), we find some interesting suggestions as to the therapeutic possibilities of foods. Thus, for instance, according to Buckland, onions, eaten at night, promote sleep, produce perspiration, and have a diuretic action. They are good for coughs and colds and an aid to gastric digestion. They are also credited with allaying the pains of rheumatism. These properties of the onion are ascribed by the writer to the sulphur contained, in the form of its sulphureted oil, the allyl sulphide.

The turnip, parsnip, and rutabaga contain a peculiar oily principle, which may account for their traditional value as aperients and diuretics, while their juices are an Old-Country remedy for coughs and hoarseness.

It is not alone that the potato possesses decided nutritive value, but it also contains several potent principles, among them solanine, which is credited with diuretic and aphrodisiac properties, and known as a powerful yet safe nerve sedative to the readers of CLINICAL MEDICINE.

Cabbage contains a sulphur compound, which may account for its alleged value in the treatment of scurvy and scrofula. Spinach acts as a laxative, and it also contains a peculiar principle, as well as considerable iron in organic form. The tomato contains a principle which, when taken in concentrated form, produces salivation and acts as a hepatic stimulant. On this account it has been called "vegetable mercury," and we are assured by *The Lancet* that "an official tincture of it is prepared in America." Just in what pharmacopoeia "tinctura solani lycopersici" is "official," we shall be glad to have *The Lancet* enlighten us.

Carrots also are said to have a cholagog action; and this humble vegetable is served at certain health-resorts to patients suffering from derangements of the liver. Carrots have also been used as a local dressing, for the relief of pain. This vegetable contains a neutral principle, known as carotin, and a volatile oil, which may explain its traditional curative qualities.

As *The Lancet* points out, many of our common vegetables contain definite active principles, so that the kitchen may reasonably be rated as, to some extent, a dispensary of medicine as well as of foods.

It need hardly be added, of course, that the foregoing remarks apply, not exclusively to the edible parts of the respective plants, but more or less to other portions, not utilized; or, also, to the vegetable at some peculiar (sometimes irregular) period of its development.

NATURE AND TREATMENT OF OZENA

A. Zografides, otorhinologist at the municipal clinic of Piraeus (Athens), expresses his agreement (*Monatsschr. f. Ohrenheilk.*, vol. 46, No. 12), with various authorities, to the effect that ozena is not essentially a bacterial disease, as commonly accepted, but rather a trophoneurosis of the trigeminal nerve; the bacteria present being, instead, incidental, and presumably also the cause of the odor, which is merely a symptom, and not a result of the disorder.

The author's treatment—very satisfactory to himself—consists, principally, in repeated very mild applications of the galvanocautery, for the purpose of producing improved nutrition through the induced local hyperemia; the nasal cavity having previously received a thorough cleaning on several succeeding days. For use at home, he prescribes a calomel ointment of 2- to 10-percent strength.

Miscellaneous Articles

The Margin of Safety in Accidents. Value of Calcium Sulphide

"A miss is as good as a mile."

AS ILLUSTRATING this old saw, as well as for its uniqueness, a brief account of the following case may have some interest attaching to it. It occurred long ago, when I was younger and physically more fit for business than now.

I was on the point of driving out of one of the villages in my field of activities, when, looking up a side street, I saw a man coming toward me, who, observing that I was looking in his direction, suddenly made a motion for me to wait. Instead of waiting, I went to meet him, and then went with him to where his team was standing at the junction of two roads.

On the way, the man told me that he and his son had come to get some oats, about a mile from home, and that, while he was guiding the team and pitched on the sheaves, the boy "made load." Now, as we know, he who stands on a load of oats somewhat resembles the proverbial sinner, in that he "stands in slippery places." The boy stood up all right, until an unexpected lurch threw him on his back and he slid to the ground. However, this ordinarily harmless performance in this instance was varied by an intervening pitchfork standing with tines in the ground and handle upright in the air just where its upper end was excellently calculated to make a temporary resting-place for the boy on his involuntary way to terra firma. Over went pitchfork and over went boy, with eight inches of the former inside of the anatomy of the latter. However, before the father, running around from the uphill side, could reach him, the plucky lad had pulled out the handle. Quickly throwing off most of his load, the father laid his son on the top of the remainder and was on the way home, when I met them.

I found my patient, a lad of fifteen years, lying on the oats in the bottom of the hay-

wagon, looking somewhat pale, but quite composed. There had been no loss of blood and there was nothing but a rent in the scrotum to indicate the nature of the accident. The rate and tension of the pulse were somewhat lowered, but not markedly so. Taking from my pocket-case a dose of nitroglycerin and one of strychnine, I placed the granules on the back of the patient's tongue; then, after telling the father to drive at an easy gait, I hurried ahead in my own conveyance to inform the mother and have a room prepared for the reception of the injured son.

When, in due time, I examined the patient in bed, I found that he had reacted well to the drugs administered on the road. It was revealed that the fork-handle, tearing its way through the left side of the scrotum, had slipped over the arch of the pubis, under the skin and connective tissue, and then, gliding over the tendinous expansion of the abdominal muscles, had penetrated up to the left of and slightly above the level of the navel. When the hurried examination was made on the road, there was nothing external to indicate the route of the fork-handle, but now a red line resembling a mark made by a whip-lash showed plainly the course it had taken. There was a slight serous oozing from the external wound opening, but no hemorrhage.

An inspection of the fork-handle and clothing made it evident that no fragment of cloth had been carried into the wound, nor, in fact, any visible dirt; as any septic or other germs which might have been introduced would, of course, have been beyond reach before it was possible to take aggressive measures, I did not believe then that it would be advisable to inject antiseptics into the channel, nor do I believe so now; so, after putting the external opening in as aseptic a condition as possible and carefully attending to the drainage, I covered the whole area of the injury with dressings constantly kept moist with an antiseptic solution.

Internally, after the bowels were emptied, the patient was given quassine, triple arsenates with nuclein, and calcium sulphide. The latter was given persistently until the patient's breath had become too malodorous for description and his appetite nearly a negligible quantity. At this time the line of redness, which had earlier broadened out and deepened to a dusky hue, had faded out entirely; the oozing had ceased and the external wound was doing well, while pulse and temperature were normal.

The sulphide now was stopped completely; but so also, unfortunately, was the progress of improvement: as the odor faded out of the breath, the red streak on the abdomen returned and an unhealthy oozing, with some drops of pus, appeared. The calcium sulphide quickly was resumed, and in a short time its good effect again became manifest: the redness rapidly faded out once more, the discharge dwindled and then ceased, while the pulse and temperature dropped back to normal.

The bowels had been acting satisfactorily all the time; nevertheless, I gave them a thorough cleaning out with calomel followed by a saline laxative, and the case went on to an uneventful recovery.

It must be admitted that "one swallow doesn't make a summer;" still, this experience forcibly illustrates the value of calcium sulphide—a value long demonstrated to my satisfaction in many other ways.

However, there is calcium sulphide *and* calcium sulphide. If this unstable chemical is not pure and absolutely reliable, unaltered, and preserved, disappointment is likely to result from its use. Therefore—to paraphrase Colonel Crockett's motto—"Be sure 'of your brand,' then go ahead."

It is a fearsome thought that, of the very narrow margin in many accidents between the remediable and those past remedy. Thus, in the case related, had the end of the fork-handle first met the yielding perineum, it could scarcely have failed to slip backward and through the anus. After that, its further course would have made very little difference; whichever way it went, it would have meant disaster. On the other hand, had it slipped only by its own width toward the left, it would have torn through the groin, dividing artery, vein, and nerve—and, after that, in very truth, the deluge.

Such was the case of the other farmer, living in the southern part of my field of service. This man was repairing the stone wall near his house, while grazing in the field

was a bull who was deemed perfectly safe and no attention was paid to his movements. However, at an unguarded moment, the bull, probably merely for play, caught up the man and tossed him over the wall. The result of this elephantine sport was, that the point of the bull's horn plowed through the victim's left groin, tearing open both the artery and vein, and death was almost instantaneous.

A case more nearly like the first one was that of an aged and retired clergyman who had bought a small farm and did much of the work himself. One day, upon arriving at the barn with a small load of hay, he started to slide to the ground—usually a simple feat; but this time it was not a case of "*facilis decensus est.*" A stake projecting through the top rail of his hay-rack caught the slack of his trousers, which, giving way, allowed him to proceed to earth with several rents, and the worst one not in his trousers. In fact, when I saw him in his bed, I found him with his testicles entirely exposed, and with, apparently, only a rag of his original scrotum left. I was somewhat used to the retractile and retiring nature of the scrotal membrane, also to nature's generous way in restoring missing tissue in this region, even to the extent of supplying a new covering for the whole pudenda. Consequently I was not much worried by this feature of the accident; and, as the testicles, though entirely bare, were uninjured, I hastened to reassure my old friend and patient—who, however, to all appearance, did not much worry, either.

After getting the wound in condition for closing, I put in the sutures, and when the last one was in place there was no appearance of missing tissue, the only opening being that left for drainage. The further progress of the case was uneventful, and when the last stitch had been removed there was only a narrow cicatricial line to show that there had been any injury. Perhaps my friend's clean manner of life, both morally and physically, together with the help of the fresh country air, had more to do with the satisfactory result than had the doctor.

Showing a similar narrow margin between disaster and comparative safety, was the following case. A youth, during an altercation with an older man, was overcome by an argument in the shape of a pickax in the hands of the latter. It may not be amiss to observe here that one arm of a pickax is fashioned like a cold-chisel, while the other is narrow and drawn to a square point. It was this pointed end of the contrivance, more penetrating albeit not more persuasive,

that was used in lieu of more convincing argument.

This was before the day of the "auto" or of country telephone service, and the parties in interest provided with no conveyance other than that afforded by Mother Nature; consequently some time elapsed before the call for aid reached me. Naturally, I expected to find a person in dire need, but, instead, my patient was sitting up in a chair and appearing much as usual; this in view of the fact that there was a square hole in the top of his head penetrating the skull in the line of the sagittal suture, half way between the occipital and frontal. There was no evidence of concussion or compression or of interference with any of the senses. The sinister symptom of watery leakage through the wound likewise was absent.

Judging by the evidence furnished by the pickax itself, this instrument had penetrated more than half an inch, passing through the inner table of the skull. I once heard of a doctor who probed with a gold pencil through an opening in a patient's skull. (Comments unnecessary!) I also bore in mind the ancient saying that fools rush in where angels fear to tread; and this angelic example of caution seemed to me decidedly worthy of emulation. I did no probing, but contented myself with removing spiculæ of bone presenting themselves in the opening, shaving and cleansing the scalp and edges of the wound, and covering the area with moist antiseptic dressings. The patient recovered without having experienced any untoward symptoms.

In a later case, the margin of safety was still narrower. A young man of excellent habits, but with a temper both quick and hot, found himself recovering from unconsciousness and lying in a stall by one of his horses. He either could not or would not make any definite statement of what had occurred just previous to his loss of consciousness. The impress of his body on the stable-bedding showed where he had been lying, and the vomit showed the position of his head.

A wound of the forehead in the median line, cutting through integument and frontal bone, appeared to have been made by the sharp calk of a horseshoe; but, as no one saw it, the exact manner of the happening could not be ascertained, although much could be conjectured from the fact that the man was of the kind who deliberately make their horses afraid of them—something that I never could understand; the gentle, loving whinny with which my horse welcomes my

approach has been too dear to me to be sacrificed for a little extra style and speed on the road.

No one knew that anything had happened until the man staggered into the house. A certain stiffness rather than hesitance of speech, with some confusion of ideas, was all that was evident when I first saw him; and even this soon passed off. No other serious indication appeared either then or later. The local treatment was similar to that used in the case just related and took the same uneventful course to recovery. So, I will not go into details.

My object in telling of these cases has been a twofold one: First, I want to present the evidence furnished by the first on the list as to the value of calcium sulphide as a systemic antiseptic. Second, to illustrate, as they all do, how very narrow often is the margin between safety and fatality.

The treatment adopted in these cases may be open to criticism; still, the issue at least was successful—and the proof of "the pudding is in the eating of it," or, as the Spanish version goes, "*Al freir los huevos, se verá,*" or, Englished, eggs are proved by frying them.

JOHN H. CHURCHILL.

Ridgefield, Conn.

[Doctor Churchill has given us a most interesting report, illustrating the wonderful tolerance of the human body for injury. While methods of treating wounds like these have changed, we think there are few of our readers who, under the circumstances, would do much better—certainly their results could be no more satisfactory. And, fortunately, the conservative methods employed by Dr. Churchill are approved by our best surgeons.

This record of experiences does give us an opportunity, however, to speak of the desirability of using a tetanus antitoxin in wounds of the class described. Doctor Churchill had no such antitoxin, of course, but at the present time it is easily procurable on short notice. One of the principal dangers in the case of penetrating wounds of all kinds, especially when they are soiled with street dirt or stable droppings, is lockjaw. This disease is exceedingly fatal and there is no remedy for it that can be depended upon, once it is contracted. But it can be prevented by prompt resort to antitoxin. It's better to "play safe"—even if the percentage of those who contract the disease is very small.

Doctor Churchill is an enthusiast with regard to calcium sulphide. So are we. So

is every man who uses it constantly and therefore knows what it will do.—Ed.]

EXPERIENCES WITH THE PAIGE-DETROIT CAR

In response to a request in the February number of *CLINICAL MEDICINE*, I will give you a little of my experience with a Paige-Detroit, inasmuch as I have driven a car of that kind for the past two seasons.

The Paige is a good type of the \$1000-class cars. It is well made, rides easy, looks good, carries five passengers, can make 50 miles per hour, and has many other good points. However, this car also has certain drawbacks, a few of which I will mention, so far as it has not been suited to my work.

When I bought, I tried to get a general-purpose car, one adapted for a family-car as well as for professional trips. My car has proven too expensive, as my record shows (I keep a very careful account of all expenses and mileage traveled) that it has cost 10 cents per mile for each mile registered; being \$304.08 for 2998 miles in 1913, and about the same for the preceding year. About one-half of this expense was for skilled labor (from 50 to 75 cents per hour); ordinary care of the car is not charged against it. We have had no serious breaks so far, and no heavy repair bills. I just had the clutch overhauled and new discs put in, as it had been slipping badly; and the cost for this was, for materials used, \$16.50, and labor, \$16.75. (This goes into the 1914 expense account.) I have had the clutch overhauled twice in every 5000 miles traveled. My experience with the gearing is about the same.

As I have the only Paige car here, I always have to send to the factory for repairs. This takes from three to four weeks, never having been less than three weeks, with the car probably laid up for that time and about two days for two men to take it down and put it together again. My car is a 25-horsepower one (really only 22) and that is insufficient for a five-passenger conveyance for a hilly country; and in consequence we have repeatedly been stuck on upgrades when the car was loaded, while this has happened even when carrying only one person. This lack of power probably in part is responsible for my high repair bills, for when a car is strained to the limit of its power this factor multiplies rapidly. I think the Paige would give better satisfaction in a level country.

For a physician's use, I would advise a light runabout; but, then, some of the low-priced

cars are so poorly constructed that they are constantly giving out while in service and require the aid of a skilled mechanic to get them started again. Before this, I drove a Brush runabout about 3500 miles, but was glad to get rid of it for that very reason, although its upkeep was much less per mile than for the Paige.

We constantly hear of people making a large number of miles with a car at very small expense, but I think they give only the cost of the gasoline and oil, which represents but about one-fourth of the total expense of upkeep; or it may be a new car on level roads and under careful handling; or, also, the driver may be a fair mechanic and do much that the average physician could not do. Providing a sinking fund to replace car when worn out, a 5-passenger-car should run for about 20 cents per mile.

M. F. MINTHORN.

Castana, Ia.

[Every car seems to have its weak points as well as its good ones. Last month Doctor Jackson, of Evanston, who drives a Paige-Detroit—and knows cars well—told us that it was in his opinion the best all-around car for a physician's use on the market. And so it goes!—Ed.]

OPERATING A FORD CAR

I hereby submit a brief report on the operating expenses of my Ford runabout, which I purchased April, 1913, and up to January 1, 1914, ran 5300 miles. Following is a summary of the expenditures:

Repairs.....	\$ 35.60
Gasolin.....	57.95
Oil.....	3.25
Hard oil.....	1.20
Tires.....	52.28
Extras.....	3.30
License.....	10.00
Total.....	\$163.58

The original tires on the machine did not prove very satisfactory and wore out in a short time. They were Goodrich tires, but I do not think that the Company allowed me any more than the price of old rubber for them in exchange for new ones, notwithstanding their guarantee for 3000 miles of service, although they did not make more than half of that. The tire item includes one extra inner tube.

In repairs are included batteries, carbide, sleeves, inner liner, and certain other items.

I paid from 15¹/₂ to 21 cents per gallon for gasolin, and 40 cents a gallon for polarine oil. Allowing one-third of the cost of the car for deterioration, or \$183.33, this makes the average cost, per mile, 6.5 cents. Our highways are mostly mud roads and the country is very hilly.

H. T. SMITH.

St. Peters, Pa.

A CURE FOR "SCRATCHES"

Regarding the cure of "scratches" in horses, I submit the formula which I have found very satisfactory; taking pleasure in giving it free for the use of the "family." This is it:

Zinc oxide.....	oz.	1
Ointment of mercuric nitrate.....	drs.	4
Paraffin, made sufficiently soft by the addition of vaseline.....	ozs.	10
Pine-tar (true).....	ozs.	4

Melt together the paraffin, vaseline, and tar at a gentle heat, stirring constantly. When liquefied, keep on the back of the stove and let settle. Rub the zinc oxide into a smooth paste with a little vaseline. Pour off from the sediment the warm (not hot) mixture of paraffin, vaseline, and tar, then add to it the nitrate of mercury ointment, stir until it is thoroughly incorporated. When cool, mix in the zinc-oxide paste.

Before using, the horse's fetlock must be cleaned, and then dried carefully. Now warm the ointment and apply it with a paintbrush, working it thoroughly into the sore. Repeat this application every three or four days. A cure will result in three to six weeks. Snow, slush or water does not interfere with this ointment, while the sores are perfectly protected by it from dirt, damp, and the like.

A. S. THOMPSON.

Hawkesville, Ontario, Can.

THE CARE OF THE HORSE'S TEETH

The care of the horse's teeth seems to be very much neglected; yet, it is very necessary that they should be kept in proper shape—for several reasons. In the city the horse has no chance to live the same as the country horse; so, the city horse needs more attention in every way. From the humane standpoint, the suffering to which a horse is put, by virtue of lacerated cheeks and tongue, is enough to demand attention and correction. It costs more to keep a horse whose teeth are in bad condition, and the animal looks bad. Because it cannot talk, it must go on working as best it can, until the poor beast per chance

falls into the hands of someone who looks after its teeth as they should be.

The way that the horse has of grinding its food causes the outside of the upper molars and the inside of the lower ones to become sharp and ragged. There have been cases where horses have been almost made new by simply fixing the teeth. One such case comes to my mind, where a horse was going to be sold to be killed; but before it got that far its teeth were attended to, and in ten days the owner did not recognize his horse, while in less than two weeks it was put to work at the old job and is still working, and is slick and fat.

Many a time a horse is suffering from the teeth, and the trouble is mistaken for something else. Nothing causes a horse to run down so quickly as when it cannot eat; and if a horse cannot eat and puts the food into the stomach only half-masticated it gives the stomach too much to do, bringing on indigestion and other stomach trouble.

The teeth have a great deal to do with the digestive system, which consists of six organs—mouth, pharynx, esophagus, stomach, small intestine, and large intestine. The teeth are part of the mouth, and the first organ with which the food comes in contact; and unless the teeth are in good condition the food passes into the stomach poorly masticated, causing indigestion and often rendering the horse unfit for service.

Another morbid condition in the mouth often found is elongated molars, this resulting from the molars being injured, when they project, up or down—as the case may be—sometimes being as much as 1 1-2 inches in length; and such an elongated molar even has been known to cut away the opposing tooth and also part of the jaw bone. It is easily seen that this condition is very painful, and the only remedy is, to use the molar-cutter, so as to make that projecting tooth even with the rest. This can be done very nicely.

Split molars is another condition often encountered, being caused by biting on some hard substance or an opposing elongated molar. In this case, the treatment generally is, to remove the split tooth, or the smaller part of it, if not split in the center. Split molars cause considerable trouble, on account of the grain getting down into the space.

Horse's teeth should be examined at least once a year, and if any abnormal condition exists it should be corrected immediately, not alone because of economical reasons, but for



Combined physician's home and office

the comfort of the horse itself, which has served the human family so faithfully for so long. The automobile has not yet entirely displaced the horse; hence, its services still are needed, and the animal is worthy of our best attention. Too much, indeed, cannot be said, or done, regarding his teeth.

As a rule, the horse is willing to do what is required of it, and without complaining. Since the horse cannot speak, it has no direct way of letting us know when its teeth hurt; it either quits eating or begins running down in flesh. And this can be avoided if its teeth are properly taken care of

J. H. LAMBING, D. V. D.

Chicago, Ill.

BIER'S HYPEREMIA IN GONORRHEAL ARTHRITIS

In the March issue of *THE AMERICAN JOURNAL OF CLINICAL MEDICINE*, page 256, our esteemed colleague, Dr. A. Rose, asks if I have tried Bier's stasis in gonorrheal arthritis. Of course I have, and while it gives fair results in some cases it is very unsatisfactory in others: not only does it fail to cure the condition; it even fails to give relief.

There is hardly a remedy or a procedure that ever fully comes up to the claims made for them by the original discoverer and early enthusiasts. Indeed, there is *no* exception to this statement.

One must bear in mind, however, that

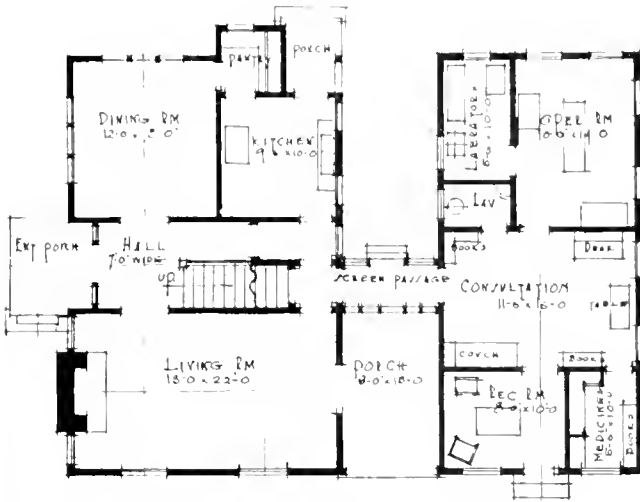
whether it be gonorrheal arthritis, gonorrhea, impotence, or syphilis, it is generally the hardest cases that I get to treat. I generally get old, chronic cases which have gone the rounds of numerous physicians for many months and even years. Recent cases of gonorrheal arthritis may be more readily influenced by Bier's hyperemia than the old, obstinate cases. But then, recent cases are amenable to many other methods of treatment.

WILLIAM J. ROBINSON, M. D.

12 Mt. Morris Park W., New York.

ANOTHER DOCTOR'S HOME AND OFFICE

Mr. Busch has given us a beautiful plan this month of a combined physician's home and office. In this plan the office is entirely detached from the residence, insuring absolute privacy. Patients coming to see a doctor who lives in a place like this will have the assurance that they will not have to run the gamut of the doctor's entire household. The office entrance is at a different side from the home entrance, and if the house is built on a corner, patients will find the office door on a different street. The advantages of such complete separation of the two parts of the building are strongly brought out in a letter from an Alaska physician, which, with a picture and plans of his home, follows this article.



Living rooms and offices connected by screened passage

One great advantage of Mr. Busch's plan is, that it can be made to face either of two ways. For instance, with a relatively large lot sloping toward the street, it might well be built with the long sloping roof to the front, the entrance to the office then being prominently toward the street. With a smaller lot and on level ground the gable ends should be made to face to the front. Also, the house is ideally planned for a corner lot.

Somehow we feel that this plan should please many a physician who desires to build a home that is simple, dignified, large enough to provide all required conveniences, and particularly adapted to meet professional needs. Such a house should be planned by an architect, and we strongly urge any one thinking of building to write to Mr. Arthur H. Busch, 1306 Gregory Ave., Wilmette, Illinois. Even if you do not intend to build at once write him, and "tell him your troubles."

CALCIUM SULPHIDE FOR PREVENTING SCARLET-FEVER

Here is a little item which may interest the readers of CLINICAL MEDICINE:

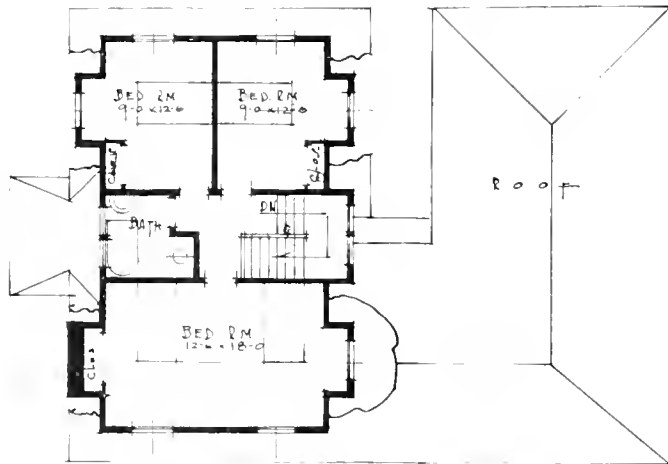
I have been using calcium sulphide in my practice for about five years, and with most

satisfactory results. As an illustration, let me cite one case in which it was employed successfully in preventing disease.

I was called to see a child suffering from a severe attack of scarlet fever. This child was one of a family of four—ten children. Naturally, they all lived in the same house and much of the time while the child was sick they lived in the same room. As a precautionary measure, every member of the family was saturated with calcium sulphide, and not another one contracted the infection.

If this were a single experience of mine, I might be uncertain as to my diagnosis. However, it is one of many similar observances, not all of the cases, of course, equally as striking.
Chicago, Ill.
J. B. Ross.

[We have seen many similar reports, al-

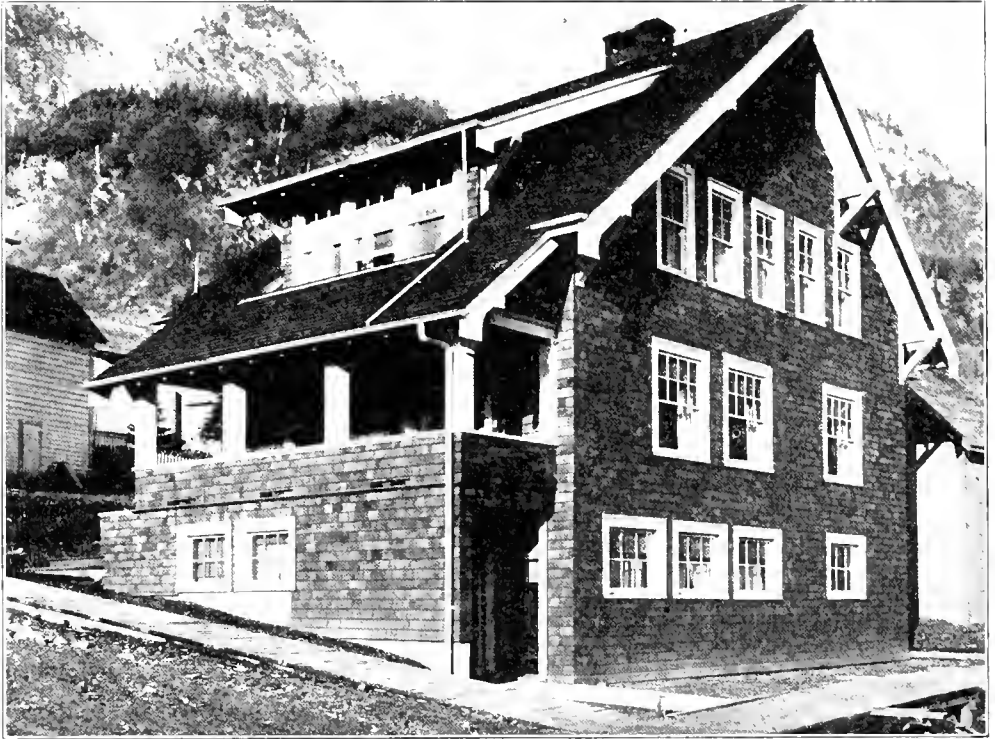


Plan of the second floor

though none where prophylaxis on such a large scale was practiced in a single family. The scarlatina prophylactic vaccine is now being largely employed with excellent success. Where many persons are exposed it should be used—plus calcium sulphide.—Ed.]

A DOCTOR'S HOME IN ALASKA

The combination office and residence shown in the February number of CLINICAL



An up-to-date doctor's home in Alaska

MEDICINE prompts me to submit the plans and a picture of my own house. This house was built last summer in Alaska, where building is about twice as expensive as in the States, at a total cost of about \$4700. The contract was let for \$4100, heating plant \$510, extras about \$100. The plan is original, so far as I am concerned, and represents about three months' work at odd times before it reached the point where I could devise no further improvements. I will say that an architect to whom I submitted my plans declared it was architecturally impossible, and designed me a house, "suitable to the dignity and importance of my position," which was to cost \$7000—and was promptly rejected.

The problem of combining an office and residence in a perfectly satisfactory manner at moderate expense is no simple task. Much depends on the extent and character of one's practice, and a great deal more on the tact, discretion and inquisitiveness of one's family. I started with the belief that there should be no question as to whom one wishes to see when he or she calls on a physician. I presume we all have many patients who have no inclination to chat with our wives or fondle our children, and not a few who find it em-

barrassing to be scrutinized by these otherwise unobjectionable members of our household. Then every physician's wife has, or should have, callers who do not want to see the doctor, or to have the people of the neighborhood suspect they are calling on him. Therefore the entrance to his office should be discreetly prominent without being conspicuous; and there should be no possibility of intrusion by members of one's household, or noises in adjoining rooms that would cause a nervous patient to fear intrusion.

Some idea of the construction of the house may be gained from the following brief data: The foundation is a concrete wall, reinforced at the corners with bent-iron rods. The basement floor is of concrete throughout, covered with fir. All floors above the basement have deadening felt in them, which renders ordinary noise inaudible. A soft-tone buzzer, ringing in the dining room when the door of the reception room is opened, and controlled with a switch, warns me of a caller when I am engaged about the house or at dinner.

I will say here that my wife never answers the office bell, never visits with me in the office, never sees a patient unless they come to "her" door, up stairs.

The interior finish is plaster, and all wood work is of Oregon fir stained and rubbed to a perfectly smooth dead surface.

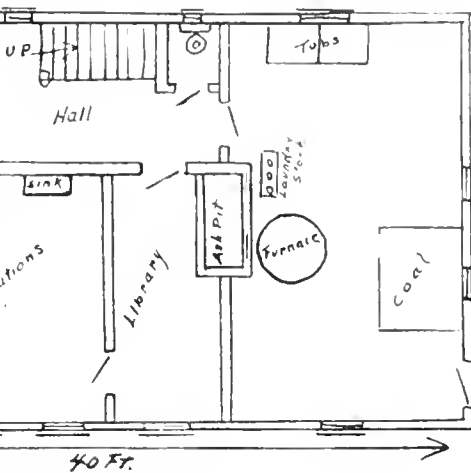
Many convenient details do not show on the plans, such as built-in tables, book-cases, side-board, medicine-case, clothes-chute, ash-dump from kitchen range, mirror doors in bedrooms, which added considerably to the cost of the house.

MEDICO.

CATS AS CARRIERS OF DISEASE

I clipped from *The Oregon Journal* of February 1 an article (dated North Yakima, Jan. 31, 1914), reporting the deaths of six persons from diphtheria, and the finding of the carcass of a cat under the basement of the home where one of the deaths occurred. It is believed that the cat died of the disease, and blood specimens from the animal have been sent to the city bacteriologist. I have requested the health officer to furnish me with a copy of the report.

This suppositious connection between the



Plan of office and basement floor

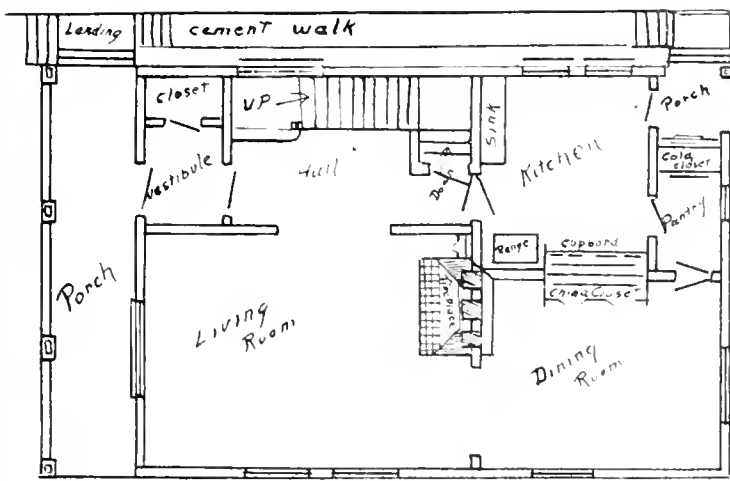
death of the man and the dead cat having transmitted the disease brings to my memory two cases of sickness in which cats were the culprits and suffered the extreme penalty. During an epidemic of measles a neighbor's cat showed symptoms of that disease, so my neighbor says. In the other case, the cat was ours. It was a very sick animal, had sore eyes, shed all its hair, etc. Now, doctor, I didn't buy any drugs to alleviate its sufferings, but administered a 30-30 "H-M-C" to "put it to sleep."

I believe cats are responsible, in thousands of cases, for the transmission of contagious diseases, and wherever such a disease occurs, if there be a cat on the premises, it ought to be killed and cremated.

The typhoid-fly gets a whole lot of "cussing," but I don't know that it is any worse than a cat is for "packing" disease.

J. CAMPBELL-
MARTIN.

Dayville, Ore.



Plan of first floor

[The influence of the domestic animals as carriers of disease has never been thoroughly investigated. That they may suffer from the same diseases as human beings there can be no doubt. It is also probable that they

may harbor insects that convey disease, as do rats and ground squirrels. But it is rather doubtful about their carrying disease germs in their fur, as seems to be a rather general idea. However, we agree with Doctor Campbell-Martin that if any family cat becomes sick during the prevalence of a contagious disease in the house where it makes its home the simplest way to deal with it is to "put it to sleep."—Ed.]

ANGINA PECTORIS AND PULMONARY HEMORRHAGE: DR. COPE GETS HELP FROM THE MARCH CLINIC

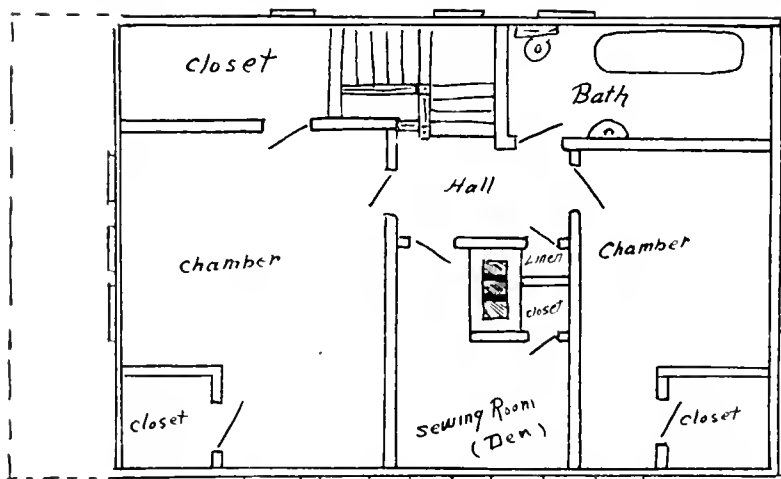
To the CLINIC "family" in general, and to Doctor Abbott in particular, I desire to express my appreciation of the last number of *THE AMERICAN JOURNAL OF CLINICAL*

The suggestion given by Doctor Waters, of Athens, Alabama, in regard to the use of the defervescence compound (page 261) has now been tried in her case, and with manifestly good results.

But this is not all the good the March number of *CLINICAL MEDICINE* did me. My youngest son, who is just past twenty years of age, has suffered from the results of infantile paralysis since he was two and one-half years old. This left his left limb paralyzed, and now it is about seven inches shorter than the other and small in proportion. Aside from this he has been well; in fact, an athlete as far as his lameness would allow. Last December he slipped, falling on his left knee (of the lame leg), producing a fracture.

We had him taken in an ambulance to the Harper Hospital. An x-ray picture showed a

fracture of the femur from the greater to the lesser trochanter. A plaster cast was applied and, after twelve hours in the hospital, he was brought home. He made a good recovery, the cast being removed at the end of the fifth week. He has gone about the house with crutches, and lately without them. The



Chamber floor of Alaska home

MEDICINE. For many years it was my custom to contribute a "Thumb-Nail Sketch" from my experience, but of late years I have thought younger and wiser men should occupy the space.

But the March number came so opportunely, bringing to me such helpful suggestions, that I take this method of expressing my heartfelt appreciation.

For many months I have fought for the life of my dear wife through angina pectoris, pulmonary edema and dropsy of the abdomen and limbs. Thanks to the active-principle methods, I have been able to prolong her life years past the time-limit set for her by capable physicians—some of whom have themselves preceded her across the river. They are gone and she yet lives.

weather has been so bad we thought it best for him not to go out, so he has staid closely at home.

Upon Saturday, February 28, he had a hemorrhage, coughing and spitting blood. The loss was not great, so I passed it over and said to the boy: "You probably have broken a small blood vessel in the throat." But every day the hemorrhage returned, and grew more copious every time, until I became thoroughly alarmed and called in counsel. The last hemorrhage was on Friday, March 6. This was certainly the most gigantic hemorrhage I have ever seen, and I have witnessed many during the forty years of my medical experience.

During the trying ordeal, and before the consultants arrived, by a supreme effort I

submerged the sympathy and affection and regard of the father for the son in the big duty of the physician, and recalling the motto on the shield of the old knights of our house, "*Adesto aequo animo*," which being interpreted is, "be ye present with a calm mind," I rallied my wits together and became the imperturbed physician.

Taking up an amyl-nitrite package—that made by Sharp & Dohme, of Baltimore, and which is by far the most complete and satisfactory in use—I had the boy inhale. Also, I had him chew and absorb a 1-30-grain atropine sulphate tablet from the mouth. I also placed him on his face. Then I gave 10 drops of digalen. This unloaded the right side of the heart, by prolonging the diastole, and relieved the lung congestion and made the labored breathing easier.

During all this time I was sending up prayers to God for guidance and wisdom. As the ship at sea in distress sends out by the wireless the code "S. O. S.," which I translate to mean "send out succor" or "send out salvation," so I was sending out wordless messages for help.

Just then the doorbell rang. I went to the door, but it was only the postman. There were no letters or mail in the box, but on the door-step was a magazine. I tore off the wrapper and lo! it was the March number of *THE AMERICAN JOURNAL OF CLINICAL MEDICINE*. Glancing through it rapidly, my eye encountered the article on "Emetine for Hemorrhage." This, I said, is the answer to my prayer. Who but God could have timed the coming of this news to me?

I had no hydrochloride of emetine in liquid nor have I yet found any here in Detroit, as it is new here. But I did have several hundred 1-64-grain granules of emetine, made by The Abbott Alkaloidal Company. I at once gave the boy 18 granules, and in four hours repeated the dose. After twelve hours I lengthened the dose to ten granules, and gave them eight hours apart. Since using this remedy there has been no further hemorrhage.

Do you wonder now that I am thankful to our Heavenly Father for so marked a manifestation of His watchcare, and to the *CLINIC* "family" for the medium through which the blessing came. I take no praise in this. I am like Ambroise Paré in whose writings we so often encounter sayings like this: "I dressed the wounds of the soldiers and the Lord healed them."

I, too, prescribe for my patients to the best of my ability, and the Lord heals them.

When my consultants arrived, there was nothing for them to do but to try to ascertain the cause of the hemorrhages. This they were not fully certain about; but the lungs were declared to be normal. The only solution given was, hemorrhage from the stomach. There has been no fear or pain. The appetite is good. The patient is cheerful. He would get up if permitted, sleeps well, and to all appearances is in good physical condition. There had been absolutely no prodromal symptoms of anything. To me it acted like a traumatism, but what caused it is a mystery. All I can state positively is that the hemorrhage stopped and has not reappeared.

How can I ever be grateful enough for the timely coming of our journal?

The Good Book says: "He that goeth forth bearing precious seed shall doubtless come again bringing the sheaves with him." Here, Brother Abbott and the "family," is the first ripe sheaf of the March number, bound about with the tender testimonials of grateful hearts. I wish this communication might appear in the April number that all may rejoice with us.

I could fill pages with stories of the good that has arisen under my hands by the use of the active-principle measures. Reverting again to the scriptures, we are told "that in the midst of it is the tree of life whose leaves are for the healing of the nations." Did it ever occur to you that in our animate bodies is the tree of life, whose leaves are the capillaries and that well being, or ill being depended on the correct filling and flushing of the capillaries, or the reverse?

Atropine, hyoscyamine, and the nitrites when properly used dilate the capillaries. These are the great standbys in the stress and storms of illness.

Another instance and I am done. Please pardon an old man for this "much speaking."

I was called to a patient thought to be dying from insolation (heatstroke), weak heart, and previous exhaustion. There were the Hippocratic countenance, the blue finger nails, the shallow breathing, the death rattle in the throat. Hastily crushing a granule of nitroglycerin (glonoin) I placed it on his tongue. Then a few seconds later I placed there a crushed granule of hyoscyamine. Taking a teacup of hot water I stirred in enough powdered iodized calcium to make it thicker and blacker than ink. I succeeded in getting the patient to swallow, as the other medicines had sent the blood flying back to the capillaries like "deer at the blast of the

hunter's horn." A few doses, and the free iodine cut short the death rattle. The patient got well!

C. S. COPE.

Detroit, Mich.

[Old subscribers to CLINICAL MEDICINE will remember Doctor Cope, who practiced his profession in Ionia, Michigan, for many years, and was long a frequent contributor to the CLINIC. Doctor, there are thousands of us, all members of the "family," who will rejoice with you in the speedy relief afforded your son. No wonder the hand of Providence seemed to be in it.]

Somehow we believe that every number of the journal carries a *personal* message to many a man who reads it, and that it is the means of saving the lives of many in the families of physicians, as well as their patients. After all, the principal function of a medical journal is *to give help*. That's what we are trying to do in CLINICAL MEDICINE—give you help.

Emetine hydrochloride is a most interesting remedy. It seems that we are just beginning to realize its possibilities. That it will cure cases of tropical dysentery in one week that have persisted for months or years now seems well established. And now comes the assurance that it is an effective, in some cases an almost marvellous, remedy for the arrest of hemorrhage. Quickest results are obtained when it is given hypodermatically, although the result obtained in Doctor Cope's son leaves nothing to be desired.—Ed.]

A WOMAN'S NUMBER OF THE MEDICAL REVIEW OF REVIEWS

The May issue of *The Medical Review of Reviews* is to be a Woman's Number. All the articles contributed will be from the pens of women physicians whose work has achieved national importance. With the growth of the feminist movement, the economic position of women has attracted universal attention. As medicine was practically the first profession open to women, it is only proper at this time to consider whether their entrance into the medical profession has been of benefit.

In order that women may present testimony by which they should be judged, it has been deemed advisable to give them an entire issue to present the evidence of the value of their accomplishments. In the laboratory, in the hospital, in institutions, at the bedside, and in public service, women physicians have

performed a valuable function. As a tribute to their earnestness, enthusiasm, modesty, energy, perseverance, and scientific acumen, the May number of *The Medical Review of Reviews* will be dedicated to the women physicians of America.

DO YOU WANT TO GO TO LONDON

This year the Clinical Congress of Surgeons of North America is to meet in London, by special invitation from the London hospitals. It is expected that a great many American physicians will be in attendance. The meeting is to be held July 27 to August 3.

The rates for this trip are very low. Numerous side trips are being arranged for the convenience of American physicians who wish to see Great Britain and the Continent. Better go, Doctor. It is a fine chance to see Europe in good company, also to see how our brethren of the scalpel do things in England.

If you are at all interested, drop a line to the editor of CLINICAL MEDICINE. He may be able to give you some help and advice. Maybe—it is only a "maybe"—if enough men go along he can get a free ticket for himself. Write us, anyhow.

INSIDE MANAGEMENT AND OUTSIDE CONDUCT OF MEMBERS OF COUNTY MEDICAL SOCIETIES

In 1876, I joined a county medical society, and everything moved along smoothly until the fee-bill and medical ethics were brought forth for discussion. The president of the Society was a kindly hearted man and withal ethical in conduct. He had the cream of the practice, charged good fees for his work, and was acknowledged to be the leading physician; but he held to the idea that all calls should be attended to, whether paid for or not.

The younger members (of whom I was one) were not in harmony with this view. They thought, a person who would employ A this year, B the next and C the third, and never pay either A, B or C, ought to be reported as a deadbeat. So, this younger set introduced a resolution that all members who knew of any such deadbeat should report his name to the society. The president opposed this resolution, saying that it would work an injury to some unfortunate but good woman who happened to be the wife of the fellow.

We tried to convince the president that our resolution was not intended to prohibit any

member from attending any deadbeat or members of his family, if he so desired; all we wanted was, to inform our members as to the character of unworthy men in the community. This explanation, however, only seemed to irritate the president, and he gave us to understand that he would resign rather than be president of a medical society with such a resolution in force. Warming up with enthusiasm, he continued:

"Young men, I have been in the ditch and got out the best I could without anyone to tell me who were or were not deadbeats. I worked for the man in the hut without getting pay, and afterward was called to the mansion, where my pay was ample. I have succeeded, and you can get out of the ditch without any help from me."

He did resign. The secretary thought that the president was right, and, he, too, resigned; thus leaving us younger members crestfallen, but by no means subdued. We still thought that the deadbeats ought to be reported, and we put on record all those we knew of. A few days afterward the worthy ex-president accosted me and said, "See here, Howle, I have cooled down. I have reconsidered that resolution and have become convinced that there is more in it than I thought; I want to turn one of those deadbeats over to you."

It appeared from his narrative that he had a patron deeply in debt to him and that the latter had offered to paint his house in payment of the bill. The joker, however, came to light when our friend presented to the contractor this patron's receipted bill in payment of the painting-account, for there was nothing coming to the painter, as the latter had been drawing wages from week to week. But my answer was:

"No-sirree, Mr. President, you can not turn this deadbeat over to me; I got acquainted with him for a dollar, and I should have put you wise as to his character if only you had allowed me to do so."

I could tell you more about this same ex-president, but this illustrates some of the inside work in county medical societies. This doctor prided himself on his kindness to his patrons, but was not willing to help a beginning young doctor. He was jealous and gave us the "cold shoulder."

Do you know any successful old doctors doing their best for a young competitor? Ethics! Ethics! It seems to me that I have heard of this term, but I am not certain of its meaning. My experience is, that it is, or was, something that was intended to unite and keep doctors in harmony, and its founda-

tion was upon the principle of the "Golden Rule"; but, for some reason, instead of cementing the profession it (or is it lack of it?) pushes them asunder, rendering them enemies instead of friends.

Our county society has been a success, in a way. We had a fee-bill and a delinquent list (blue-book), and for a time the pay was much better and everything went smoothly; but recently there has been a cutting of fees and a falling off in membership, and it seems that we are about to go under. I have an idea as to why, but my views possibly would do more harm than good, so I await further discussion of county medical societies.

W. P. HOWLE.

Charleston, Mo.

SUCCESSFUL DRUG THERAPY

I have lived a reasonably long life; fifty years of which have been devoted to the practice of the healing-art. During this period many theories have arisen and many practices inaugurated which have, severally, either been relegated to the "scrap heap," or else have been almost completely rejected. Yet, notwithstanding, this neglect is not justly because of a want of merit, but rather is owing to the fact that the early claims for them were much exaggerated, and which later extensive trials failed to establish.

One form of therapy there is, though, that has not failed to "make good"—that is, alkaloidal medication. This form of drug treatment is steadily gaining ground in the favor of the profession, and there are good reasons.

Every crude drug found in the vegetable kingdom contains one or more active principles, some of which are antagonistic one to the other (that is, with respect to their application to diseased conditions). I need allude only to the crude drug digitalis for confirmation of this statement.

Every physician, when he administers (rightly or wrongly, as the case may be) morphine, cocaine, atropine, caffeine, quinine, or strychnine, is practicing alkaloidal medication. And this many do while they condemn the system. This largely is because of want of thought and their being harnessed to a routine practice acquired from their teachers.

The alkaloidal, or dosimetric, system is not claimed, by its advocates and followers, to be a perfect "cure-all." We do hold, however, that these medications are specific for certain abnormal symptoms of the body if they are

produced by morbid conditions. Yet, this does not make them specific for any individual specific disease, as a whole.

We have long held and believed that successful medication depends mainly upon an adequate knowledge of the morbid condition manifested by the symptoms in any given case.

Diagnosis is our hobby! Correct diagnosis followed by active-principle treatment spells success.

Now, alkaloidal medication ordinarily is confined to the use either of granules or of tablets of recognized minimum doses for the adult; and by this means we obtain uniform results. I will qualify this statement:

There is no recognized dose; for no one at the initiation of treatment can know how much of a given remedy will be required to produce a favorable result or to relieve a symptom; in consequence, minimum doses may be given and repeated at frequent intervals until the desired effect, remedial or physiologic, is produced.

Now, in many diseases we find, and resulting from them, partial paralysis; and heart failure frequently occurs.

All physicians, of all schools, recognize and use one principal medicine as a specific in these conditions, namely strychnine. In fact, no drug is known that is its equal in the stimulation or exaltation of vital functions; hence, its use in indigestion, torpid bowels, heart failure, paralysis, and so on. In lethal doses, it kills by exaltation and spasm.

There is another advantage that alkaloidal medication possesses over galenical preparations, and it is this:

Every practicing physician using galenical preparations is aware that no reliance can be placed upon a uniformity of strength of any tincture or extract of any drug he may desire to prescribe. They well know that these preparations vary in strength and therapeutic efficiency. They have proved, from time to time, that some fluid extracts of ergot for example, are twenty times as strong as others, or that some of cannabis indica are from two to fifty times as strong as are other samples.

Do we find the plant principles—morphine, quinine, strychnine, digitalin, atropine, and the rest—varying in strength or efficiency? Rarely.

And there is another advantage of alkaloidal medication, namely:

With the alkaloids, we need not wait until we have made an accurate diagnosis; we can begin medication at once, according to

symptoms, in the hope of checking the progress of the complaint. This phase was well illustrated by a case when a man was brought to my office from a village on the opposite side of the St. Johns River. From the symptoms presented, we believed it to be an attack of typhoid fever; we therefore furnished medicine and instructions to meet these indications. Having given up making calls, we did not hear from the party for six weeks; when a message was brought that the patient's complaint was typhoid fever, from which he had suffered five weeks, and that the physician in charge had stated that "if it had not been for his [my] preliminary treatment the patient would have died!"

In the treatment of infectious diseases, the *materies morbi* never is lost sight of, and every endeavor is made to eliminate and neutralize it. In other words, we strive to render the soil (so to speak) uncongenial to the microorganisms and the ferments that give rise to many complaints. For this purpose, I use calomel, the sulphocarbolates, and arsenite of copper. Such treatment may be called the "dominant treatment," because it is directed against the cause of the disease.

While our diagnosis still remains incomplete and we do not know the cause, we have to treat the dominant or prominent symptoms. Any concomitant symptoms arising during the course of the disease, such as pain, diarrhea, vomiting or insomnia, require what is called variant treatment. This treatment is limited to symptoms and is discontinued as soon as relief is obtained, while the dominant treatment is continued as long as the disease lasts.

For example, we have a case of malarial fever and it is ushered in with a chill. First we administer atropine, in order to flush the capillaries and thus relieve congestion and abort the chill. This has also the effect of shortening the fever; to relieve which we give aconitine, or defervescent compound or acetanilid.

Now, fever means undue oxidation, which is a destructive process.

There is absolutely no cause to fear evil results from administering alkaloids for disease according to Burggraeve's method.

Hence, we can see no reason why physicians should prefer to administer crude drugs, or their tinctures or their extracts of unknown and variable quantity and subject to substitution in the compounding of their prescriptions, when they can have supplied them in granules of all the active principles of known strength and uniform action, and

prepared by manufacturing chemists of known reputation.

A. T. CIZNER.

Gilmore, Fla.

DO YOU WANT TO GO ABROAD?

Any doctor who, in company with his wife, wants to make a trip to Europe and combine pleasure with the learning of a foreign language cannot do better than correspond with Dr. Charles F. Mills, South Framingham, Massachusetts, who is planning a holiday trip to France, Switzerland, and down the River Rhine. A French teacher will be taken along, who will give a practical course in conversation in French, without additional expense. The idea is a novel one and should appeal to many.

HYPODERMIC IRON

I have just read the article by Doctor Servoss on the subcutaneous injection of iron, appearing in October, 1913, *CLINICAL MEDICINE*, in which the intravenous injection of it is discussed. This leads me to say that I have been using an intravenous solution containing 2 1-2 grains of soluble phosphate of iron and from 3 to 8 grains (as desired) of the cacodylate of sodium. The way my anemic and neurasthenic patients rebound to normal health is quite wonderful.

I am thinking that, altogether, we need more information on the intravenous use of drugs; it really is quite surprising how the blood stream takes care of substances thrown into it.

W. N. FOWLER.

Kalamazoo, Mich.

[We agree with Dr. Fowler that this method of giving medicines should receive more attention. We invite the experience of every physician who may read this number. Let us know just what remedies you use in this way, what reactions follow, and the results, good or bad.—Ed.]

THE LARIMER (COLORADO) COUNTY MEDICAL SOCIETY

The Larimer County Medical Society met in the Y. M. C. A. building at Fort Collins, Colo., on February 5. Drs. Rew, Kickland, Hoel, Quick, Schofield, Taylor, Halley and Stuver being in attendance. There also were present, as guests, and participating in the

discussions, Mr. Schantz and Mr. Thorman, local pharmacists, and Dr. O. L. Smith, dentist.

Doctor Stuver read a paper entitled, "Should the Physician Dispense His Own Medicines."

He first called attention to the persistent efforts that are being made by the retail drug associations to secure representative legislation that will hamper and even prevent the physician from dispensing his own medicines to his patients. He insisted on the importance of the physician being properly trained in chemistry, materia medica and therapeutics, and then he given the right to choose whether he will dispense or prescribe his remedies. He discussed the question under the three aspects of the interests of the patient, the physician, and society.

Under the first heading, he showed how the welfare or even the lives of many patients would be jeopardized if the physician were not permitted to dispense medicines for them when first called to see the case; how by prompt and efficient treatment many diseases can be aborted, their course shortened or their symptoms greatly alleviated; and how patients living in remote country districts would be greatly inconvenienced and their lives often endangered if the physician did not go prepared to furnish medicines to them.

Under the second heading, the effect on the physician, he showed how dispensing his own remedies caused him to make a more careful study of their chemical composition, physiological action and therapeutic effects, as well as making him a closer observer of the symptoms of the various diseases he is called upon to treat; how it brings him in closer touch and sympathy with his patient and enables him to maintain a better control over his actions and the disease under treatment. The charge that physicians buy and furnish their patients with cheap and inferior drugs was shown to be, not only untrue, but puerile.

Under the head of the effect on society, he showed how prescribing and the unauthorized filling of prescriptions led to self-drugging and neglect in the proper treatment of diseases in their early stages; also that fifty percent or more of the habits of morphine, cocaine, and other narcotic poisons are caused by placing prescriptions containing these drugs in the hands of patients and permitting them to be refilled by the druggist.

Mr. Schantz had a very good paper on the druggists' side of the question, in which he laid great stress on limiting all prescribing to the Pharmacopeia and having the pre-

scriptions filled by a druggist. The papers brought out an animated discussion in which nearly all present took part.

All agreed, even the druggists, that no restrictions should be placed on the physician dispensing in emergencies; and it was generally conceded that he should have the right to do what he thought was best for the interests of his patient. On the general question of dispensing or prescribing, some favored one plan, others the other. The use of active-principle medication, as so ably advocated by Dr. W. C. Abbott and his coadjutors, and used by about 40,000 physicians in the United States, was favorably spoken of by several.

E. STUVER.

Fort Collins, Colo.

DO YOU WANT THE INDEX?

We have ready for delivery the copies of the Index for this journal for the past year, 1913. In many respects this is the most complete and carefully prepared Index we have ever put out. Every doctor who binds his journals—and everyone should—ought to have a copy. It will be sent free to anyone upon the receipt of a postcard request.

Do it right now!

BARRIERS

Political economists used to say, "People are separated by rivers, mountains, seas, and mutual dread." One by one these barriers have been conquered. Witness some notable examples—the Suez Canal, the St. Gothard Tunnel, the Simplon Tunnel, the Brooklyn Bridge, the Panama Canal. The completion of each one marked a distinct advance in civilization and human welfare. Note also the names of Watt, Fulton, Morse, Bell, Marconi, Wright, Goethals—barrier-removers, all!

Strange to say—very strange, indeed—the greatest barrier of all, a barrier infinitely more wasteful of human energy and time than a trip around the Horn or a detour of the Alps, still remains to hamper progress and to impose a burden, needless and heavy, upon mankind. Stranger still, this barrier was not even recognized as such by our leading men—hence, they passed it by and attacked the lesser ones.

This big barrier stands, mountain-like, between the producer and the consumer, challenging another Fulton or Marconi to

action. Burleson, favored by the fates, is in a position to demolish it with one stroke of the pen! This conquest, unlike the others, will require no vast treasure nor sacrifice of life, nevertheless the task will demand the courage of a Wright and the unconquerable perseverance of an Edison!

What is the barrier? Let me illustrate by personal experiences. I have an orange-grove in Florida and a cherry-orchard in Michigan. The barriers between me and the consumer are the same whether in the north or in the south. They are not peculiar to fruit-growers, either, but are common to all producers—hence, the orange will serve as a true type for illustration.

When this fruit commands \$1.00 a case in Florida, my northern friends must pay \$5.00 or \$6.00 for a case. In other words, *it costs four or five times more to carry an orange over the barrier than it does to produce it.* This absurd and unnatural condition, owing to a marketing system inordinately expensive and inefficient, constitutes a barrier much more wasteful of human energy and time than a trip around the Horn; the Alps are a mere ant-hill in comparison.

Burleson, our postmaster-general, can demolish this barrier. How? Simply by raising the parcel-post weight-limit to 100 pounds and lowering the tariff to an actual-cost basis; establishing a rate of 50 cents a case on oranges from Florida to New York, Chicago, and intermediate points, with C. O. D. privileges included, and a similar rate for all other products.

This would enable the producer to deal directly with the consumer, and thereby eliminate the barrier. Then the consumer would pay \$1.50 instead of \$6.00 a case for oranges, and for all other foods in proportion.

No, such a plan is not impracticable. Consider a train of ten cars running on a passenger schedule from Florida to New York, carrying 300 cases to the car, or 3000 cases in all. At 50 cents a case, the train would yield a revenue of \$1500 for a 35-hour trip. This sum would pay the railroads generously and still leave enough for local delivery.

In its perfected form, this plan would require a clearing-house, or postal market, operated under the auspices of the post-office, in which all foodstuffs would be handled *in standard packages.*

You know the usual objections to such a plan; you also know with what stubborn ferocity the plan would be assailed by influential men who now control the barriers

and derive a profit therefrom, hence, you will understand why I said, "The task will require the courage of a Wright and the unconquerable perseverance of an Edison."

Bear in mind, however, that this plan is absolutely correct from a scientific standpoint, and for this reason its adoption is assured sooner or later.

Bear in mind, also, that the greatest engineering-work ever attempted has just been brought to a successful completion by a public official. In view of this fact it would simply be idiotic to assert that a public official could not manage successfully a petty enterprise like a postal market, especially when assisted by the splendid delivery-service already in operation.

Carrying the finished product to the user—a dunce's job—is easy and simple compared with making the article. *The postal market would exemplify this fact with crystal clearness, and would establish a correct and natural relation between the cost of producing and marketing—a thing hitherto an impossibility, owing to the heavy charges affixed by a horde of middlemen. Furthermore, the prompt and rapid delivery through the postal market would entirely prevent damage from decay, at present a source of great loss and a large factor in the barrier.*

The "Big Barrier" beckons Burleson on to instant action. The task is not an easy one, for the inertia of custom is greater than that of granite. Burleson, however, can overcome it, if he has the courage to suffer the hardships and trials every pioneer must endure. Will he join the other immortal pioneers, the famous and beloved barrier-removers, Watt, Fulton, Morse, Bell, Marconi, Wright, Goethals?

The post-office now saves the people 7 cents on a 10-cent sale, furnishing for 3 cents a package of envelopes which sell for 10 cents in the stationery stores. There is no good reason why this saving-principle should be limited to envelopes. The postal market would extend it to foods of all kind, and would furnish for 15 cents a dozen oranges that now sell for 60 cents in the grocery-stores. Here is the key to "High Prices," and the only rational remedy therefor.

Establish a postal market and a postal express.

R. L. GREEN.

Notre Dame, Ind.

[Another "barrier" that should be removed is the prohibition of the mailing of poisons. As the Postoffice regulations now stand

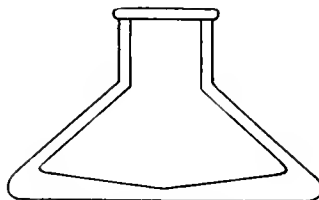
practically all hypodermic tablets and most of the potent remedies, such as strychnine, morphine, mercuric chloride, arsenic and aconitine are unmailable. Write the Postoffice Department and your Congressman. Demand that this "barrier" to the doctor's full purchasing power be removed.—Ed.]

A CORRECTION

Through an oversight in proofreading, the name of Dr. T. H. Standlee, whose article upon "Guatemala, The Metropolis of Central America," appeared on page 272 (March number of CLINICAL MEDICINE), was misspelled. Kindly see that this correction is made in your own journal, spelling as above.

WANTED: A BOTTLE!

I have been in the doctoring business for over ten years and I have always dispensed my own medicines. My favorite dispensing containers are the 1-, 2-, and 4-dram homeopathic glass vials. But, much as I have used them, they have never been satisfactory, and I still continue to hand them out to my pa-



Dr. Rowlands' suggested bottle

tients simply because there is, so far as I know, nothing better on the market at present to use in their places. Few of these vials have perfectly flat bottoms, many being so rounding or slanting that they will not stand upright. Others are imperfect, with blow-holes in their bottoms, cracked, or so thin that they crush easily in the pocket. Most of them have a bottom which is convex on the inside, making it difficult to extract the last drop of a liquid medicine with a dropper. Then, again, the ordinary homeopathic vials are top-heavy when filled and are forever toppling over and spilling the contents.

I have designed a bottle that is cheap and serviceable and at the same time built in a manner to obviate all the foregoing difficulties. Note the cut. You see, the vial, made of thick glass, is shaped like an ordinary ink-bottle, big at the bottom, and with a depres-

sion in the center which will hold the last drop of any liquid dispensed in it. If the bottom were made in an elliptical shape, it would be handier and not appreciably less stable. I believe that a bottle of such shape, made up in the sizes named above, would find a ready sale. What manufacturer is willing to make the venture? I'll take a gross and give them a trial.

EDWARD G. ROWLAND.

Oakfield, Me.

[The trouble with the doctor's bottle is, that it would be expensive to make, hard to ship (breakage would be high), hard to handle (it is an awkward shape), and would take up a lot of room as compared with the ordinary vials.—ED.]

A VICIOUS AMENDMENT TO THE HARRISON ANTINARCOTIC BILL. TIME FOR THE PROFESSION TO ACT

We stop the presses to get into this issue of CLINICAL MEDICINE a matter which vitally concerns every physician, veterinarian and dentist in the United States. We have just received information, from Washington, of the introduction of the half-expected eleventh-hour amendment to the Harrison Antinarcotic Bill.

This amendment, introduced by Senator Knute Nelson, of Minnesota, not only wipes out every concession to the physician, but is so worded that he is grossly discriminated against, to the advantage of the retail druggist and the patent-medicine vendor. By a rigid construction, it might actually prohibit the physician from dispensing any drug or any combination or mixture of drugs containing opiates or other so-called narcotic remedies unless he personally administered them to his patients. Also, it would compel the physician to keep a record of the names and addresses of all persons to whom he might administer any narcotic drugs, and the dates on which said remedies were given.

This latter requirement is so drawn that no matter how small the dose, what the form, what the combination, or what its purpose, these records must be preserved "for a period of two years from the dates thereof, in such a way as to be readily accessible by the officers, agents, employees, and officials of the Government." One class of remedies is excepted—a significant one, to which we shall refer later.

As originally passed by the House of Representatives this bill provided that it should not interfere with the

"dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist, or veterinary surgeon registered under this Act

in the course of his professional practice only: Provided, however, that such physician, dentist, or veterinary surgeon shall personally attend upon such patient."

This section was amended in the Senate (amendment introduced by Senator McCumber) so as to read as follows:

"Nothing contained in this section shall apply—(a) To the dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist, or veterinary surgeon registered under this Act in the course of his professional practice only: Provided, That such physician, dentist, or veterinary surgeon shall have been specially employed to prescribe for the particular patient receiving such drug or article; and, provided further, That such drug shall be dispensed in good faith, and not for the purpose of avoiding the provisions of this Act."

Senator McCumber of the Finance Committee was fearful that according to the original wording of the bill (it required personal attendance) the law might be interpreted as forbidding the physician to send by messenger to a patient ill at a distance remedies needed for immediate relief. He placed this objection before the members of the National Drug Trade Conference who called upon him at the time of the meeting of that body in February. It was accepted as satisfactory to the members present at this conference. It properly protects the rights of the physician. (See editorial, page 292.)

The Nelson amendment strikes out the words "dispensing or distribution" in the section just quoted, inserting the word "administration" in lieu thereof.

It so changes the meaning of the bill that the doctor is now to be permitted to administer narcotics only in person. Even as originally passed, and in the form objected to by Senator McCumber, such remedies might be given by others under his supervision. Even this right is taken away.

If this amendment is accepted it becomes an offense against federal law for the doctor to send a cough tablet, a throat lozenge, an antispasmodic for asthma, or an anodyne for the relief of diarrhea, neuralgia, or any other painful condition to a patient through a third person; and it is a serious question whether he can legally place such remedies in the patient's own hands.

In effect, it legalizes the doctor's use of the hypodermic syringe while rendering it illegal for him to dispense medicinal forms requiring repeated doses. Nothing more drastic or more dangerous to the medical profession has ever heretofore been proposed.

What is the source of this amendment? Of course it did not originate with Senator Nelson. The answer may be found in the *Journal of the N. A. R. D.*, which in its issue of March, 24 in an editorial urging its

readers to insist upon certain legislation, and to use their influence with their senators and congressmen, made this statement: "It is suggested that it [H. R. 6282] be amended to take from physicians, dentists, and veterinary surgeons the right of 'dispensing or distributing' the drugs enumerated in the bill by giving them the right of administering."

This "suggestion" is almost word for word the language of the Nelson amendment.

Senator Nelson also proposes to amend the bill by adding the following words:

"And provided further, That such physician, dentist or veterinary surgeon shall keep, or cause to be kept, a list of the names and addresses of all persons to whom the aforesaid drugs were so administered and the date thereof, and shall preserve such names and addresses for a period of two years from the dates thereof in such a way as to be readily accessible to inspection by the officers, agents, employees, and officials hereinbefore mentioned."

This amendment is less serious than the first one. It does, however, involve the doctor in a maze of bookkeeping details, which are entirely unnecessary to the end aimed at. As the bill originally stood, the doctor was compelled to keep a record of all narcotics purchased. If he purchased more than there was legitimate demand for he could be reached and punished. The amendment places the honest men of the profession in danger of burdensome and inquisitorial supervision on the part of the federal government, interfering with the confidential and sacred relationship between physician and patient (protected by law in many states), involving the keeping of records of single doses of medicine, of local applications, of the use of local anesthetics or other minor interventions, and of minute quantities of narcotics in frequent every-day use.

Also, the bill discriminates against the doctor in the favor of the druggist. The former must keep a record of the names and addresses of all persons to whom he administers these drugs, and preserve this list for two years. All the pharmacist is expected to do is to file the prescription (as he always does) and to keep it two years (as he would in any event). He is not required to keep the names and addresses of the patient; nor is there apparently anything to prevent refilling the prescription as many times as may be his and his customer's pleasure.

It should be noted, right here, that, in effect, the bill permits the sale of liquid remedies containing small quantities of opium, morphine, heroin and codeine without any restrictions whatever. These may be sold

by a traveling medicine peddler, country store or by the pharmacist himself. The druggist may pass these out over the counter, ready mixed or specially mixed, in unlimited quantities and with a free hand. The doctor, on the other hand, who for convenience and other good reasons prefers to carry and dispense tablets or pills will find that these must be purchased under his license, and if administered to a patient (presumably he cannot dispense them) he must keep an elaborate record, be prepared for the visits of a government inspector, and, if careless, expect to pay a fine or be imprisoned.

We have presented the facts. It is for the medical profession to act since it is most concerned. We believe in the bill. We urge its passage. Something of this kind is greatly needed, and physicians should make any sacrifice within reason to secure a strong, clean and effective measure of this kind. But every doctor in the country should fight for his reasonable rights—and if there is any fight in him, now is the time to show it.

We suggest that you write immediately to your United States Senators, telling them you are in favor of the bill and want to see it passed; but tell them you object to the use of the word "administration" without proper definition and urgently request that your right to "dispense" be specifically protected; also that you be spared unnecessary burdens in the way of record-keeping.

This is not a fight against the druggist or against any individual, trade or profession. It is simply a fight to secure the passage of a great reformatory legislative measure, and to prevent its being so twisted by selfish trade interests as to oppress you.

Insist that the bill be passed—and passed unamended. Get action from your medical society—and act quickly.

LATER.—Just as we finish this, a message comes that the bill may be taken up today. Immediate action is imperative. Write to your representatives in Congress as well as to your senators. Representative M. D. Foster is a member of the House Committee which introduced the bill, and is a physician.

CHOLAGOG ACTION OF DRUGS

By inserting a drainage-tube into the gall-duct of operated patients, van Kegel (*Nederl. Tyd. v. Geneesk.*, 1913, p. 1606) has satisfied himself that the salicylates, chologen, Du Fresne's remedy, and olive oil have no—or only an insignificant—influence upon the flow of bile, but that bile is a powerful chola-

gog. Ovogall acts quite well; ox-gall rather less so.

Probably the ideal remedy to stimulate hepatic function consists of the bile-salts, now obtainable in a convenient form.

DREAMERS: DOCTORS OF SANITARY SCIENCE

"Nothing," says Parkes, "is so costly in all ways as disease, and nothing is so remunerative as the outlay which augments health, and in so doing augments the amount and value of work done." An apt expression this, and one pregnant with suggestion and meaning. But Parkes evidently was thinking of the economic side of disease. And well might he think of it in an economic light, for, in our day everything is economics—we judge the almighty things of life by the standard of the ever-mighty dollar, and care for almost no other consideration.

Everybody is practical nowadays. Everybody is a so-called business man and prides himself in looking upon things from a business point of view. We are all applying our knowledge, our minds and our energies to something tangible, something that can be converted into dollars and cents. We must do this. Competition is keen, and the grim, unyielding law of the survival of the fittest holds sway in human society as true and heart-breakingly positive and unrelentless as it does in other phases of life.

We forget in our mad struggle for existence—for the dollar which makes our particular brand of existence possible—we forget, I say, that there are other things that demand our time and our thought. In the mad rush to treat disease and to beat the other fellow in treating some particular disease, and thereby gain money and a "reputation" (as well as help humanity by the way), we oftentimes forget that the prevention of that disease should be our chief aim.

"It is our chief aim." Yes, so you say. Look deeper, friends! You say that for years the doctors have endeavored to prevent disease—at the same time that they were getting fat fees endeavoring to cure people of that self-same disease.

And, yet, sanitary science is still in embryo. And those who have devoted their time and energies to this all-important branch of medicine—a branch which ought to be, and eventually will be, a profession by itself—those doctors, I say, have gone into obscurity and oblivion, unnoticed, unpaid, unrewarded.

Why? Because they were not practical—bah!—they were dreamers—let them pass.

But they are e'en now awakening and asserting their own—these dreamers. The day will come—and it is not afar off—when they will lift their mighty shoulders and break through the crust of materialism and conventionality and establish a vast system of governmental medical supervision and health preservation.

Of course, sanitary science, the art of preserving health, has always been recognized as a branch of medical science; a branch not less important than that which concerns itself with the cure of disease. It has been recognized, yes—and that is all.

Even as far back as 1490 B. C., Moses, the great leader of the Jews, enjoined the strictest cleanliness and to a very great extent anticipated our modern sanitary laws, which, in an age of so-called civilization and after centuries of development, are not much better now nor half so well enforced as were those in force during that comparatively primitive period.

Hippocrates, that great teacher, embodied in his works an article on hygiene the practice of which probably obtained long before his time. Had doctors taken up the study of hygiene where that great master left off, we should not have to read today of the great plagues, the pestilences, and the epidemics which even up to modern times have periodically devastated the civilized world.

But, if doctors have thus far neglected this most important branch of medicine, some of them have wakened to the fact that there is something vaster, something more ennobling to be done than to treat disease. There are a few dreamers in the medical profession, and among them are also sanitary scientists.

What would these dreamers do if they had their own way? Ah, well! Sanitary science is a dream of the future. Perhaps some of these days we shall describe just how things would be with a national board of health, with sanitary scientists as legislators and members of the President's cabinet, and with an army of doctors instead of soldiers, and with a navy of floating free sanatoria in all parts of the world instead of a navy of armored ships of war. Then there will be no contagious and infectious diseases, and all maladies in general will be less prevalent and terrify less the average human being. But that will be the work of dreamers and—well, sanitary science is a dream of the future.

D. E. PICONI.

Brooklyn, N. Y.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

I HAVE just finished reading a very remarkable book, "Women and Morality," published by The Laurentian Publishers, Steinway Hall, Chicago.

The book sells for one dollar a copy and it is worth it.

This is a sex-book of tremendous interest and importance, a work that should command the attention and careful consideration of every man and woman.

There is no topic within the domain of social science so delicate and so vital as that so sensibly and fearlessly treated in "Women and Morality."

The sex-passion has ever occupied a large part of human thought. Much has been written on this subject from time immemorial; but the writing has been, in the main, inadequate, dogmatic, foolish or untrue. Outrageous inferences are made and equivocations surmised upon the slightest reference to the subject, and qualified admissions of liberty are construed as commendations of unbridled license.

However, the greatest hindrance to a general correct understanding of the sex-passion is the extraordinary ignorance and diversity of feeling and temperament which exists in matters of sex. This is increased by the reserve—natural or cultivated—which so seldom allows people to express freely their sentiments or convictions on this generally taboo subject.

In "Women and Morality," "A Mother," "A Father," and C. Gasquaine Hartley (Mrs. Walter M. Gallichan) have each written fearlessly and with rare intelligence on the question. To quote from the last-named writer:

"The sex-needs are almost always dealt with as though they stood apart and lay out of line with any other need or faculty of our bodies. This is, in part, due to the secrecy which has kept sex as something mysterious. . . . Sex is so powerful in most of us and occupies really so large a part of our atten-

tion that we are afraid of ourselves, and this reacts in fear of any open acknowledgment of our sex-needs.

"It is necessary to face very frankly this tremendous force of the sex-passion, for the most part veiled in discussion. Next to hunger, this is the most imperative of our needs; and, indeed, today sex enters more into conscious thought than hunger. For the hunger-needs of most of us are satisfied, while the sex-needs are thwarted and restrained in all kinds of ways, and thus thrust themselves the more insistently into our thoughts. Herein is the explanation of why so much of our speech about sex is so thoroughly indecent."

This is true. The sexual appetite lies far deeper down than the appetite for food or for anything else. "By sin came death into the world," and the "social evil" has its root in primal "sin," so called—more correctly, however, in the God-given procreative instinct.

The animal act, the abuse of which causes the evil, is as natural as any other animal act, and as necessary as the act of nutrition. Without either, life would soon fade out from the face of the earth. You have to go back to the primordial bioplasm before you can find an example of reproduced life without it.

We have to deal, not with theories nor clamors, but with red-blooded realities, setting aside sentiment as such. Considered from a sensible and exalted point of view, sexual life is beautiful, as well as good. What there is in it which is shameful and infamous is the obscenity and ignominy and disease caused by the coarse passions of egoism and folly, allied with ignorance, erotic curiosity, and mystic superstition, often combined with social narcotic intoxication and cerebral anomalies.

The "Mother" writing in "Women and Morality" says: "Those women who assert that men must be educated up to women's physiological law are either ignorant of physi-

cal truths or wilfully blind; in which case they do not count. . . . A woman can, by nature, have only one child in the year; a man can have hundreds. Such is nature's law. To argue about it, to set out to prove that man must be leveled up—in plain language, must be constricted to the same physical laws that govern our sex—is mere woman's chatter; unscientific, empty, which can bring about neither reform nor morality."

It is refreshing to find a talented, broad-minded woman—a mother—holding the view that the sexes differ in this particular respect; she, evidently, does not believe that there should be one standard of morality for the male and the female sex alike.

There is a physiological difference sexually, as "A Mother" knows, and the sexual instinct in man is different—in degree, at least—from that in women; and continence in women is less injurious than in men, although every experienced medical man knows that in women the results of continence sometimes are very disastrous.

A *normal* woman is not passionless; but she is chaste and less demonstrative. Purity does not mean that the senses are untouched. As Ellen Key has well said: "Purity is the new-fallen snow which can be melted or sullied; chastity is still tempered in the fire of white heat. For chastity is only developed together with complete love; this excludes equally all partition among several and makes a separation between the demands of the heart and of the senses impossible." The essence of chastity is, according to George Sand's profound words "to be able never to betray the soul with the senses nor the senses with the soul."

Woman, because of the conventional conception of womanly purity, has been intimidated from conceding to men a deep insight into her erotic life-experiences. Only when women begin to tell the truth about themselves will literature universally illuminate the still unknown depths of woman's erotic temperament.

And C. Gasquaine Hartley (Mrs. Gallichan), in "Women and Morality," tells the truth! She writes: "There is no greater lie than the so often reiterated assumption that 'woman is naturally and organically frigid.' It is a lie that will take a real revolution in our moral ideas to uproot." She does not believe that chastity is the natural and special virtue of women, and adds, "Complete abstinence from love cannot be borne by

women through a long period of years without producing serious results on the body and the mind. It is in the blighting effects of celibacy that we must seek the cause of the sterility of women's lives."

The ideal woman is the one who desires with her whole being, who wishes to *give* love, not merely to accept it; chaste, not because she is cold, but because she is passionate. Ellen Key states it well;

"She will be reserved, not because she is bloodless, but because she is full-blooded. She will be soulful, and, therefore, she will be sensuous; she will be proud, and, therefore, she will be true. She will demand a great love, because she herself can give a still greater. The erotic problem, because of her refined idealism, will be extremely complicated and often almost insoluble. Therefore, the happiness which she will give, and experience, will be richer, more profound and enduring than anything which up to the present time has been called happiness."

The marriage question is most ably discussed, although I doubt whether we are any nearer the solution. "A Father" writes feelingly on the "decay of domesticity." He maintains that there must be more expression and less repression; that what we want is purity—as much as we can get. But we do not want neuter-purity. Many wives, he says, are sexless (too true!); they are bored at their prospective "duties of propagation"; they are the philosophic *élite* of their sex. "They strive," he writes, "for the abolition of prostitution, and in so far have my profound respect. But, if, with a view to attaining that end, they insist that the male shall be leveled up to their own standard—then I wish them joy in their labors."

Neither marriage-laws nor civic laws, nor all the hysterical exhortations of men or women will abolish prostitution or sexual indulgence outside of wedlock. "No ordinance of man shall override the settled laws of nature and of God." "Solomon's wisdom was extinguished in the fire of lust, Sampson's strength enervated, piety in Lot's daughters quite forgotten, gravity of priesthood in Eli's sons, revered old age in the elders that would violate Susanna, filial duty in Absalom to his step-mother, brotherly love in Ammon toward his sister. Human—divine—laws, precepts, fortune, shame, disgrace, honor can not oppose, stave off or withstand the fury of it."

The story of the world, so far as we can trace it, has shown that all civilizations, as

they reached higher and more complex forms, have developed polygamous practice, either with or without the sanction of law. Emancipation from primary conditions of brute labor has always brought increasing leisure and ease, with an accompanying spread of indulgence for all the appetites.

A few thousand years are all too short to bring any measurable change in human character, tastes, appetites, and habits. The differences are racial only, and racial differences arise from climate and the influences of physical geography. Certain fundamental qualities and propensities are common to all. The impulse of procreation is the most common. It is universal. In some parts of the world, as thought grows freer and fancy finds time from hard pursuits to dwell on luxury, it diverges from its merely natural, and necessary, purposes and finds expression in promiscuity.

The difference between peoples in any corresponding stages of advancing life and enlightenment will be found to be very slight, indeed. In the underlying, elementary things, they are all alike—and we are like them all. And in every age sexual congress outside of wedlock has existed; having for its cause the blind urging of the protozoid—the nagging and often irresistible impulse of sex.

Negative purity does not inflame youth and cannot, in the long run, protect him. To burn the ideal of a great love into the soul of youth, is to give him a real moral strength. Thus, there springs up in man the ineradicable, invincible instinct that an erotic relation exist only as the expression of a reciprocal, all-comprehensive love. Thus will youth learn to consider the love-marriage as the central life-relation, the center of life; and he will be inflamed with the desire to develop and to conserve body and soul for the entrance into this most holy thing in nature, wherein man and woman find their happiness in creating a new race for happiness.

But what shall become of the young man situated as "A Mother's" son was, or a poor young man who is unable to win the girl he desires, or of the young woman who must wait until she is asked before she can marry, and may never be asked by the man of her choice? Hers is the lament of a woman who suffers

Cut off from marriage-bed and marriage-song,
Untasting wife's true joy or mother's bliss.—

One of the writers in "Women and Morality" advocates open recognition of sexual partnerships outside of marriage in certain cases, not necessarily permanent, with proper provision for the woman and her children, should there be any; and she adds: "a provision not dependent on the generosity of the man and made after the love which sanctioned the union had waned, but decided upon by the man and the woman in the form of a contract before the relationship was entered upon, there would be many women ready to undertake such unions gladly; there would even be some women, as well as men, who, I believe, would prefer them to the present marriage system, that binds them permanently to one partner for life."

Could such a relationship be immoral? Can any relationship where love exists be immoral, then?

To the world, all women found even one step outside the prescribed path are equally vile, alike deserving unmitigated censure; yet, from the highest to the lowest of those so outlawed is a sweep as far as from the highest heaven to the deepest hell. Some of the noblest, grandest women of the world have lived on very intimate terms with the men they loved, and that, too, without the formality of securing society's sanction. Many a noble woman has become a man's mistress, because she could neither become his wife nor trample her heart beneath her feet at the dictates of society. With some women, and with some men, *love* is a higher law, before which canons of church and state shrivel into nothingness.

If many unmarried people like "A Mother's" son find life, conventional as it is, a difficult problem, how about the vast army of married people who are mismated? And is there anything more pathetic, more tragic than incompatibility—when the two minds find that they no longer share the single thought, when they have to grope for a topic of conversation, when there is nothing in common? Intellectual sympathy alone will not hold people together. Much of the domestic unhappiness starts in the nuptial couch. There must be perfect compatibility, physical and intellectual harmony; indeed, a thorough understanding and response in feeling, thought and will. No union between a man and woman can endure if they but touch as spheres. "Difference, not distance, separates souls."

And when souls are separated, though married, what is to be done?

Read this book. You will be profoundly impressed, although you may not agree with all that is written there. At times you will be startled by the very boldness, yet, undoubted truthfulness, of the writers, as, for example, in such statements as the following:

"We have got to recognize that our form of marriage cannot meet the sex-needs of all people. To assert that it can do this is as absurd as to say that one form of diet can meet the hunger-needs of all people."

"It is not realized that the effort of the reformer is not, to lessen at all the bonds between the sexes, rather the desire is, to strengthen them; but the form of the bonds will have to be made wider, if they are to meet the sex-needs of women and men. We shall have more morality in too much wideness than in too little."

"That any child should be branded as illegitimate, is, in itself, witness to the inadequacy of our moral code."

"The woman who loves a man wants to be the mother of a child by him."

"The art of love is not understood by western people. If we paid more attention to this subject, sexual partnerships, and in particular marriage, would be freed from one great cause that brings them to disaster."

"To me, the man who is able to live a celibate life is not necessarily better than the man who is not. I may prefer one type of man, I may dislike the other, but this also is a matter of my personal idiosyncrasy. The old Puritan shrieks of blame are possible only to the ignorant."

"There are very many men who are moral, because they are too great cowards to be immoral."

"Sexual abstinence is possible without great effort for some people; I am certain it is not possible for all."

"Temperance is the ideal; not chastity."

"We women will always appeal to men primarily physically—beauty, therefore, will always be our chief valuation."

"Practically every man who is not married is leading an immoral life—immoral, that is, judged by the principles of our church and government and society."

But read the book!

MEXICO: A REMEDY

I have read with a great deal of interest the article, in the October CLINIC, by A. R. Hollmann, of Colima, Mexico, under the heading, "Shall the United States Recognize

Huerta?" The writer has personal friends who are well acquainted with the existing unsettled political affairs of that country, they having lived there and having quite extensive business interests in that country.

Mexico labors under the same disadvantage that the Central American and other Latin-American states have passed through and are still experiencing, I refer to the blighting curse of the intermingling and intermeddling of the clerical, or religious, element with civil, or state, affairs. Until this controlling influence is thoroughly eliminated from any connection with the civil government of that unfortunate country, there will not and can not be any settled, peaceable, and stable condition in its social and civil affairs; and even then it will take at least two or three generations to do it, so habituated are the inhabitants to misrule and chaotic conditions generally.

It is a pity that one of the fairest sections on the American continent, abounding, as it does, in tropical and semitropical fruits of every variety, agricultural products of all kinds, and an unlimited supply of mineral wealth and precious stones, should be subjected to such a constant state of political perturbation.

From the time when the Toltecs were subjugated by the Aztecs, in 1325, there was, according to historians, comparative tranquility in that country down to 1519, when the Aztecs were overpowered by the Spanish brigand Hernando Cortez—since which period the country has been in a more or less unsettled condition.

It is the writer's opinion, formed from what information that can be gathered, that there are but two courses for the United States to pursue in connection with its Mexican neighbors; namely: one way is, to apply the strong arm of military force in conjunction with Huerta; this implying recognizing him as the *de facto*, if not *de jure*, executive of that government; the other plan is, to let them fight it out among themselves, without any foreign interference whatever, until one or the other of the contending factions is exterminated. The latter plan is, perhaps, the one that would be the most effective as a permanent remedy.

Perhaps our Secretary of State could persuade the Mexicans to substitute unfermented grape-juice for their favorite pulque. That beverage might help somewhat toward cooling their chullient Spanish-creole blood.

G. D. STANTON.

Stonington, Conn.

Among the Books

JACKSON AND MC MURTRY: "DISEASES OF THE HAIR"

A Treatise on Diseases of the Hair. By George Thomas Jackson, M. D., and Charles Wood McMurtry, M. D. Illustrated with 109 engravings and 10 colored plates. Philadelphia: Lea & Febiger. 1912. Price \$3.75.

How much do you know about the hair and its diseases? The number of bald-headed doctors in evidence would suggest that the majority of us do not know very much about this subject; so, if you would thoroughly familiarize yourself with it, as you should, by all means study the treatise of Doctors Jackson and McMurtry, a book filled with interesting and helpful facts. Thus, for instance: do you know that there are about 120,000 hairs on the head of the average adult person; that blond hair is thicker than black hair; that flaxen hair is the finest and black the coarsest; that the finest hairs of the scalp of the Anglo-Saxon race are from 1-1500 to 1-500 inch in diameter; that women's hair is coarser than men's; or that whether hair curls or not depends upon how flat it is?

Further, do you know that the most fertile single source of the spreading of diseases of the hair and scalp is the barber-shop for men and the hair-dressing establishment for women; that shingling the hair injures the scalp and roughens the hair itself; that singeing is a foolish custom, which does no one any good except the barber; and that hair dyes, while often injurious, may be perfectly harmless if made of proper materials?

In addition to facts like those cited, the authors present much that is of exceedingly practical value in the way of treatment. For instance, we are interested to learn that pilocarpine is the only drug known to promote hair growth. Still, there are numerous other remedies which, through improving the health of the patient, may contribute to a healthy condition of the hair and the scalp; and it must be remembered that there are many diseases of the scalp that cause falling of the hair.

All these various diseases are discussed by the authors with exceeding care and in a man-

ner that greatly adds to the interest. Such subjects as alopecia in all its forms, ringworm, eczema, sycosis, favus, pityriasis, seborrhea, pediculosis, and syphilis are gone into with exceeding detail. Surely, this book is one that should appeal to every physician—and, we suspect, to every physician's wife.

TYSON AND FUSSELL: "PRACTICE OF MEDICINE"

The Practice of Medicine: A Textbook for Practitioners and Students. With Special Reference to Diagnosis and Treatment. By James Tyson, M. D., LL. D., and M. Howard Fussell, M. D. Sixth edition, revised and rewritten. With 6 plates and 179 illustrations. Philadelphia: P. Blakiston's Son & Co. 1913.

In spite of the multiplication, within recent years, of specialized medical literature, the compact, comprehensive textbook of general medicine still seems to maintain its place and its popularity. Indeed, there are not wanting indications that more recently, possibly as a reaction from the specializing tendency referred to, there has been a decided movement, on the part of students and readers, back to the general style of textbook.

Certainly, a work of this class occupies an important and valuable place, not alone from a practical standpoint, but even from an academic one as well. For, such a compilation serves to assemble, and discriminate, and orientate all that is being done in the special fields of medical science, and to give everything its proper proportional relation to the healing art—which, after all, is the end and *summum bonum* of all medical research and experiment.

Doctor Tyson's "Practice" always has enjoyed the reputation of being a standard work, and the latest edition fully upholds this reputation. A large number of new subjects have been introduced that properly claim a place in a book aiming to cover the entire field of internal medicine; and the whole is shaped into a practical, usable summary, with a view to the highest degree of clinical efficiency. No additional words from the reviewer are necessary to insure its continued

popularity: the book is its own best endorsement.

--- **HUHNER: "STERILITY"** ---

Sterility in the Male and Female, and Its Treatment. By Max Huhner, M. D., chief of the genitourinary department of the Harlem Hospital. New York: The Rebman Company. 1913. Price \$2.00.

Sterility always has been and still continues to be one of the *betes noirs* of medicine. Every physician runs against the problem, sooner or later. The gynecologist, of course, encounters it a dozen times to the general practitioner's once; and always it presents the same obscure and difficult task, the same tantalizing challenge to the ingenuity and detective-ability of the doctor. Moreover, inability to bring forth progeny is a heart-searching problem, for it touches one of the profoundest and most delicate of human instincts and passions—the love of offspring. Nor can one sidestep this problem, and the doctor must canvass the question with all the thoroughness that is at his command before admitting defeat.

It is for the purpose of putting within the practitioner's easy reach all the data thus far available on the subject that Doctor Huhner has written this little book. It must be confessed, though, that, while it leaves very little to be desired, at least from the physical and clinical point of view, we cannot help feeling that neither Huhner nor any other writer on sterility has given the biologic factor nearly the attention that it calls for. Otherwise, the author backs up his teachings with his own experiences, of which he presents plentiful examples, in the shape of clinical reports.

--- **SOPHIAN: "EPIDEMIC CEREBROSPINAL MENINGITIS"** ---

Epidemic Cerebrospinal Meningitis. By Abraham Sophian, M. D., formerly with the New York Research Laboratory. St. Louis: C. V. Mosby Company. 1913. Price \$3.00.

One of the latest and greatest achievements in practical therapeutics was Dr. Simon Flexner's discovery of a curative serum for epidemic cerebrospinal meningitis. The use of this serum has reduced the mortality of this terrible disease from a general average of about 75 percent, to approximately 25 percent, and although the new serum has been in use only about two years, it has already saved many thousands of lives.

The discovery of the Flexner serum did not, however, come from a clear sky. It was the culmination of a long series of careful studies in the etiology and pathology of the disease, and in the making of these investigations Doctor Sophian, the author of the book herewith reviewed, had a considerable part. Naturally his book is given up quite largely to the laboratory aspects of epidemic meningitis. However, the disease in all its phases is studied with exhaustive scientific care, and this monograph gives not only practically all that is known concerning the disease, but it is particularly complete in every phase of its etiology, pathology and therapy.

Doctor Sophian, it will be remembered, was employed by the city of Dallas to take charge of the epidemic of this disease which prevailed in Texas during 1912. He has therefore had opportunity to study the clinical phases of epidemic meningitis such as has been the privilege of very few men. If any man is an authority upon the subject, he is. His monograph is therefore a book of exceeding importance and one which should certainly be in the hands of every physician who is called upon to treat cases of meningitis, or confronted with the possibility of an epidemic.

--- **"MANUAL OF VENEREAL DISEASES"** ---

A Manual of Venereal Diseases. Second edition, revised and largely rewritten. By Keogh, Melville, Leishman and Pollock, all of the British Army Medical Corps. New York: Oxford University Press. London: Henry Frowde. 1913. Price \$3.75.

There is no more fruitful field for the study and clinical observation of venereal diseases than the regular army; and nowhere else have these diseases received such systematic and intelligent attention as among army-surgeons. Naturally, one will expect a book on this subject, written and edited by members of the army medical service, to furnish a very thorough and highly valuable contribution to the literature of this branch of medicine; and, indeed, those familiar with the treatise under consideration will agree that this expectation is fully realized by it.

The second edition of this manual, which we are now reviewing, is an especially complete work. The chapters on the pathology of syphilis virtually have been rewritten, to conform to the present status of our knowledge, while new sections have been introduced upon the treatment of syphilis with salvarsan and neo-salvarsan and on the vaccine treatment of gonococcal infections. There is also

a section dealing with the treatment of the latter condition by means of the local application of heat.

All the writers are men of long and active experience in their respective divisions of the subject and may be regarded as experts; for all that, the book is written in such a fashion as to be of the maximum practical value to the general practitioner in his encounter with these diseases.

HARE: "PRACTICAL THERAPEUTICS"

A Textbook of Practical Therapeutics; With Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis. By Hobart Amory Hare, B. S., M. D., professor of therapeutics and materia medica in Jefferson Medical College, Philadelphia and New York: Lea & Febiger, 1912. Price \$4.00.

"When called to guide a patient through an illness, the physician should be constantly a watchman, and a therapist only when necessity arises.

"A good physician is one who, having pure drugs, knows when to use them, how to use them, and, equally important, when not to use them.

"When a physician gives a drug and the patient improves, care should be taken not to ascribe all the good results to the remedy employed. Nature must be given credit for a large part of the improvement."

These rules are quoted from the first chapter in Hare's "Therapeutics." We have cited them often, but they so clearly express both the ideal of the true physician and the ideal which runs through Professor Hare's book that it seems proper to print them here.

Hare's "Therapeutics" has been mentioned so often in these pages that we hardly need speak again of its merits. There are larger books than this, but there certainly is none which presents the things which the physician ought to know about drugs and their application with more clearness and with such a definite understanding of the needs of one actually engaged in the practice of medicine. The book is, indeed, a practical one from beginning to end.

The drugs are discussed in alphabetical order. We have only praise for this section. Following this portion of the book come articles upon various physical, nonmedicinal remedies: for instance, the antitoxins, vaccines, Bier's hyperemic treatment, carbon-dioxide snow, the use of water, climate, cold, heat, and counterirritation. We mention

only a few of the many physical measures referred to.

Part IV, which comprises about one-third of the matter, is devoted to a discussion of diseases. These also are taken up in alphabetical order, and the indicated remedies are described and the physician is told how to use them. There is contained in this work a wealth of helpful material obtainable nowhere else in such small compass. We take pleasure in drawing attention once more to the value of this book, and suggest its purchase by every practitioner desiring "an ever-present help in time of trouble."

"PROGRESSIVE MEDICINE"

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements. Edited by Hobart Amory Hare, M. D., and Leighton F. Appleman, M. D. Vol. IV. 1913. Philadelphia and New York: Lea & Febiger. Per annum, \$6.00.

The volume under consideration is devoted to metabolic and genitourinary disorders. There is a section on diseases of the digestive tract and allied organs, including the liver, pancreas and peritoneum, by Dr. Edward H. Goodman; a chapter on diseases of the kidney, by John Rose Bradford; a section on genitourinary diseases in general, by Charles W. Bonney; and, for good measure, Dr. Joseph C. Bloodgood contributes an article on shock in anesthesia, infections, and fractures.

At the end of the volume there is an excellent feature, in the way of a "practical therapeutic referendum," giving a ready-reference résumé of the recent findings and provings that have been achieved of various therapeutic agents, classified alphabetically under the name of the drug or other agent in question. The whole is a very "nutritious and easily digestible" sublimation of all that has been assimilated by the body medical during the three months that the volume covers.

MITCHELL: "THE DOCTOR IN COURT"

The Doctor in Court. By Edwin Valentine Mitchell, LL. B., of the Massachusetts Bar. New York: The Rebman Company, 1913. Price \$1.00.

We have frequently pointed out the importance of the general practitioner of medicine possessing what may be called a working-knowledge of his relationships to the law.

Ignorance of the law excuses no one. How many physicians even know the rules of law that apply to their own calling? Yet, there are peculiar reasons why the physician should be even better informed than his lay neighbors upon matters of this kind. He cannot consult his attorney upon such occasions where extraordinary exercise of care and judgment is demanded of him, and situations are innumerable where unscrupulous persons ensnare the doctor in a tangled web of circumstantial evidence through nothing in the world but his ignorance of the legal significance of perfectly innocent acts.

Unfortunately, most of the textbooks of medical jurisprudence treat the entire subject altogether too much from the purely forensic side, and so miss the very reason of their existence. They almost ignore the smaller, everyday aspects which the doctor is continually encountering.

Mr. Mitchell's little book really is the first of its kind we ever have seen that meets our ideas of what such a compilation should be. It is, as its title implies, a *vade mecum* for the doctor in court—a working-manual of his relations to the law. We recommend it highly to our readers, and assure them that they will get more of practical, usable value for the modest dollar spent on Mr. Mitchell's little book than for many times that sum put into a ponderous volume on medical jurisprudence.

BISHOP: "HEART DISEASE AND NAUHEIM TREATMENT"

Heart Disease, Blood Pressure, and the Nauheim Treatment. By Louis Faugeres Bishop, A. M., M. D., Fordham University, New York. Fourth edition, revised. New York and London: The Funk and Wagnalls Company. 1913. Price \$3.00.

The author of this book very pertinently remarks in his introduction that, as tuberculosis is the great despoiler of youth and of early manhood and womanhood, so high arterial tension is the curse of middle and advanced age; and just as tuberculosis has for its victims the most attractive youth of the land, so high arterial tension claims the best and most successful of older persons, those who have borne the weight of the strenuous demands of a modern career. High tension, therefore—its etiology, pathology, and treatment—are of immense interest and importance from the very widest viewpoint of medical science and practice. Indeed, we are realizing of late that these functional aspects of the

circulatory mechanism are of vastly greater import than the organic troubles that have been claiming so much of our time and attention.

Doctor Bishop's able and conscientious work on blood pressure is known and admired of all men; and whatever he has to say on the subject comes very near to being the last authoritative word. The fact that this book is in its fourth edition within less than six years of its original publication testifies to the valuation in which it is held. It is not intended for the heart-specialist, but is written for the general physician, and furnishes all the information he can desire in the management of high tension, based upon the most recent scientific research and clinical experience. The lucid description of the Nauheim treatment is a most valuable feature of the work.

BECK: "HANDBOOK FOR NURSES"

A Reference Handbook for Nurses. By Amanda K. Beck, graduate of the Illinois Training School for Nurses, Philadelphia: W. B. Saunders Company 1913. Price \$1.25.

A perusal of this little handbook reminds one of the precocious individual of whom the poet said,

And still the wonder grew
How one small head could carry all he knew.

There does not seem to be a single thing that the nurse could possibly desire to know, at least in the way of practical detail, that she cannot find in the pages of this small 32mo volume of 200 pages. From a glossary of Latin abbreviations up to the symptoms and care of a case of pregnancy, nothing is left out. Moreover, the third edition evinces a thorough and conscientious effort to keep the book up to date.

Many new formulas that recent experiment has shown to be valuable have been added, while several old and superseded ones have been eliminated. A section has been inserted on the modern methods of giving baths, including a list of the articles needed for these and similar forms of treatment. A like inventory is given of the instruments required for surgical operations, while the various postures of the patient for this and that kind of operation are aptly illustrated with cuts. We really do not see how a trained nurse can get along without Miss Beck's handbook; and where the doctor has to play the part of nurse (as he frequently does) he, too, will find that its usefulness is not to be "sneezed at."

Condensed Literature Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 5987.—“Paralysis Following Penetrating Wound of Hand.” W. M. B., Idaho, on September 18, placed a long-necked bottle on the floor and put the palm of his hand on the cork to force it in; but the neck of the bottle was cracked and gave way, so that the hand came down upon the sharp-pointed fractured glass. It was thought that no pieces of glass remained in the wound, but later (on Thanksgiving Day) a fragment was discovered lying between the ring- and the little finger, just above the palmar arch. Although it was removed, the man has not recovered full use of this hand. Since the operation, the sensory function seems to be impaired, the outer side of the ring-finger, nearly all of the little finger and the corresponding area extending to the location of the wound being “numb” and the little finger almost without feeling; there is fair motion, however.

At the time of the injury some “rheumatism” in the middle joint of the middle finger was complained of, but gave no particular pain; the area was slightly swollen and stiff, pain being caused by pressing on the joint with thumb and finger. Later, the same condition was observed in the first joint of the thumb—slight soreness upon pressure, but no stiffness. The man can not exert pressure with the thumb and forefinger unless the thumb is completely flexed; he cannot now handle a hatchet with any force or agility. Later, the space between the phalanges of thumb and forefinger became wasted, and now a shrunken space exists on the palmar side of the thumb, involving what seems to be the superficial portion of the flexor brevis pollicis muscle.

The doctor cannot conjecture how this condition in any way can be attributed to the injury; nevertheless, it came in the wake of it, the first sign being inability to grasp the crank and ring the telephone.

We agree that it would be difficult to attribute this man's pathological condition of the thumb and adjacent muscles to the lesion described, which, as we understand it, was located between the ring-finger phalanx and that of the little finger, just avoiding the palmar arch.

The palmar cutaneous branch of the median nerve crosses above the annular ligament and divides into two branches, to supply the ball of the thumb and the palmar surface of the hand, while the digital branch supplies both sides of the thumb, and also the radial side of the ring-finger. The superficial palmar branch of the ulnar nerve supplies the skin of both sides of the little and the ulnar side of the ring-finger. The radial branch of the musculospiral nerve becomes superficial three inches above the wrist and supplies the adjoining sides of the thumb and index-finger, the index- and middle, and the middle and ring fingers.

A superficial wound or lesion distinctly above the palmar arch could not, therefore, affect the nerve supply of the little and the ring-finger and the thumb; but it is just possible that a small piece of glass worked its way further down into the palm, or, also, that the inflammatory process extended deeply enough to involve the nerve supplying both regions.

We must not forget, however, that when the injury to the hand occurred there was present some disorder of the middle joint of the middle finger; and this may not have been “rheumatism,” as you call it, but an evidence of neuritis.

Under the circumstances, we are inclined to consider the present condition of the thumb as in no way connected with the injury, but one which must be regarded as proof of an already existent pathological condition. We naturally would infer that the palmar cutaneous or the digital branch of the median

or the deep palmar branch of the ulner nerve is involved. The electrical reaction should be tested, in the hope that the condition speedily will disappear.

QUERY 5988.—“Harmless Hair-Dye Wanted.” R. I. McL., Rhode Island, wishes us to recommend a harmless hair-dye for a patient of his, explaining that “the lower half of the back hair is quite brown, but the rest is getting decidedly white; if it were all blanched the lady would not mind it so much.”

There really is no effective treatment for canities, especially when only a portion of the hair has changed color. In many cases of so-called *pilosis circumscripta*, the condition will be found to extend through several generations. You do not state the age of your patron; we are, therefore, unable to state whether the grayness is the consequences of advancing years or a distinct canities *præmatura*.

It would hardly be desirable for the lady herself to attempt to dye her hair, especially the gray portion of it. We should advise her to let well enough alone, although, of course, she could dye the entire hair a deep-brown or black. Practically any depth of shade can be secured by the conjoint use of a corrosive-sublimate solution, 2 grains to the ounce, followed by one of sodium hyposulphite, 1 dram to the ounce. Of course, the solution should not be allowed to touch the scalp; in fact, toxic dyes are not to be advised generally. Also, a 1-3-4 percent nitrate of silver solution will produce a black color, the hair being thoroughly moistened with it, then dried in the sunlight.

Kaposi gives the following formula for a brown hair-dye: pyrogallol, 40 grains; cologne-water, 75 drops; rose-water, 3 ounces. Apply to the freshly washed and dried hair with care.

The following two solutions also may be used: (1) Bismuth citrate, 1 ounce; rose-water, 2 ounces; distilled water, 2 ounces; alcohol, 5 drams; ammonia water, enough to form a solution. (2) Sodium hyposulphite, 12 grains; distilled water, 4 ounces. No. 1 should be applied in the morning, and No. 2 in the evening of the same day.

QUERY 5989.—“Continuous Administration of Calomel.” H. S., New York, wishes to know what we consider the best eliminant for calomel when the drug is given continuously for, say, three weeks.

Calomel given in small doses is eliminated (not as calomel of course), with extreme rapidity. It may be desirable—indeed, it is as a rule—to give a subsequent laxative saline in order to remove waste material and excess secretions present because of the action of the mild mercurial.

It is quite true that when large doses of calomel are given part of the drug remains unconverted and should be removed from the bowel by the administration of saline cathartics. We assure you, however, that, if calomel is given in doses of 1-6 to 1-3 grain every hour or half hour until 1 grain in all is taken, you will secure full calomel effect, and the drug will be eliminated by the emunctories to the last particle in twenty-four hours. It is not desirable, as a rule, to give calomel continuously.

We do not believe that calomel, as ordinarily dosed, is converted by the hydrochloric acid of the gastric juice into corrosive sublimate. It has been definitely proven by Rutherford and Vignal that if 5 grains of calomel are subjected, at 100° F., for the space of seventeen hours to the action of normal gastric juice, 1-35 of a grain of mercuric chloride is produced. As small divided doses of calomel do not remain in the human stomach seventeen or even seven hours, it is evident that only an extremely minute amount of mercuric chloride would be formed. Even if given in the comparatively large dose of 5 grains, calomel passes into the intestine within two or three hours and is there decomposed and the gray oxide of mercury precipitated. Such of it as is held in solution by fatty materials becomes, after admixture with alkaline liquids, practically soap.

The direct action of calomel upon the liver is not yet satisfactorily understood.

We must bear in mind, doctor, that in small doses calomel is more effective than when given in large ones, owing to the fact that only such portion of it as is changed into the gray oxide is active, and, since the amount of alkaline juices in the intestine is small, only a small quantity of the drug may be so changed. It is for this reason that bicarbonate of sodium so frequently is associated with calomel, its presence naturally aiding the reduction of the salt.

Where large doses of calomel have been given to a patient, or if taken for a prolonged period, it is necessary to order salines freely, and magnesium sulphate unquestionably is the most satisfactory eliminant of the drug. Small doses of potassium iodide also have been recommended for this purpose.

QUERY 5990.—"Can Iodized Calcium and Calomel be Given Together?" H. D. C., North Carolina, wishes to know whether there is any danger of mercuric iodide being formed when iodized calcium is administered in association with calomel or blue-mass.

We regret being unable to answer this question positively. Personally, we refrain from doing so; other physicians, though, of whom we know, do not hesitate to combine these two drugs, sometimes continuing them for a prolonged period. We present a few chemical facts and leave you to form your own conclusions.

Mercurous chloride is oxidized to mercuric chloride by iodine. If there is present an iodide, as usually is the case, then the soluble mercuric iodide, is formed. The reaction proceeds best in acid solution. Iodized calcium contains some free iodine. In the stomach, it is believed, free iodine is liberated. It is possible that iodized calcium also contains excess iodides. Therefore we are disposed to assume that the combination is undesirable. After all, however, as we have so often said, reactions in the test tube and in the stomach may be entirely different.

QUERY 5991.—"Sexual Precocity." M. C. B., South Dakota, reports the case of a boy between two and three years old, strong, well, and largely developed for his age, who since his infancy has had a distinct orgasm about once a month. The parents have watched him carefully and they assert that this occurs without any excitation on his part. (The child's appetite and digestion good.)

We cannot conceive of a child of this age having an orgasm. May we ask just why it is believed to occur? Emission would be impossible, as a matter of course.

The penis may become turgid at stated intervals; but such condition probably might arise from constipation, preputial smegma or a too tight or an elongated prepuce. The child probably ought to be circumcized. As to there being no excitation to cause these erections, are you sure that you have excluded thigh friction?

If you can give us further clinical data, we may be able to comment more intelligently. If circumcision is not indicated (it almost certainly is), keep the child's bowels open with laxative salines, and, moreover, search carefully for the presence of pinworms or other such cause.

QUERY 5992.—"Hemorrhoids." "Ulcer of Colon." J. C. C., Virginia, is treating a

patient for "bleeding hemorrhoids" and an ulcer of the sigmoid flexure of the colon, but who will not consent to an operation." The patient complains of a continual pain in the left inguinal region, and when he is not under medical attention his bowels move about every thirty minutes in the daytime, while he is compelled to get up every night from one to three times. The stools generally are of a fluid character, and whenever he takes anything to stop the frequency of the actions, and they are formed, the feces are coated with bright-red blood. He feels well every other way, saying he would not mind the bowel movements if he could have the pain stopped.

"The man has 'gone the rounds,' and he declares that he has had this trouble ever since he can remember. He has been a pretty heavy drinker of whisky and everything else that he could get drunk on, but has not touched a drop since April 29, 1913. He complains more of this pain now since he stopped drinking than he did before he stopped. His appetite is good, he has not lost any flesh, sleeps well. His occupation is that of a traveling salesman, and he is on the road all the time. He has a stricture, and every time he drinks anything cold this stricture immediately contracts and he cannot pass his urine, so that a physician must pass a catheter."

We regret to say that medicinal measures can hardly be expected to produce curative results in the case of this man. In the first place, it is impossible for us definitely to fix the origin of the blood which is voided with stool. Still, it is probable, as the blood is bright-red, and the hemorrhage more pronounced when the stools are formed, that it comes from the hemorrhoidal mass.

If the patient really desires to be cured, he should submit to a surgical procedure at the earliest possible moment. Of course, the sphincter ani can be dilated, the hemorrhoids be injected, and the ulcer treated through the sigmoid flexure. Were we in charge of this case, however, we should absolutely insist upon removal of the hemorrhoids, direct treatment of the ulcer, and dilatation of the urethra.

Are you quite sure, doctor, that there is not present more or less cirrhosis of the liver? How extensive is the ulceration? Have you examined the rectum carefully? There may be quite an extensive proctitis.

You say that the patient has "gone the rounds." Naturally, he has traveled from doctor to doctor, and will continue to do so

until he finds some physician who will insist upon his submitting to effective treatment.

In the meantime, all you can do is, to prescribe such as, for instance, hamameloid, esculoid, and collinsonoid, two granules of each to be taken every three hours; and chionanthoid, 1 grain after each meal. Locally, order high injections of a solution of hamamelis and calendula, to be given morning and night. Also, a rectal suppository containing extract of *esculus hippocastanum*, gr. 1; extract of hamamelis, grs. 3; extract of collinsonia, gr. 1, one such inserted three times daily, may prove of benefit. The safest beverage is barley-water. Small doses of lobeloid or lobeline sulphate will control the urethral spasm.

The patient should drink no coffee or alcoholic beverages; smoke very little.

We earnestly urge you, however, not to promise any definite results from this treatment, but to insist positively upon surgical intervention.

QUERY 5993.—“Fistula in Ano. Submerged Tonsils.” J. C. H., Texas, is treating (1) a patient for an anal fistula that has no internal opening, so far as he can find; the external opening is three inches above the anus; the abscess opened eight months ago. For two months the doctor has been swabbing it out weekly with pure carbolic acid. The sinus is not so deep now, but the patient thinks it should be healed up. The patient is a man 22 years of age, of robust health.

(2) Enlarged tonsils in a girl of 9 years. The tonsils, it is explained, seem to be high and behind the soft palate to such an extent that it would be difficult to get the snare around them without including part of palate. How should that kind of tonsil be excised?

A “blind” fistula nearly always should be converted into a complete one, a probe being run through the fistula into the gut, and the anal sphincter divided under anesthesia, local or general. The fistulous tract should be curetted and the wound packed with gauze saturated with a good oil-solution of thymol iodide or an antiseptic oil, repacking daily until healing from the bottom occurs. Balsam of Peru may be used to stimulate granulation.

If there is only a short blind sinus ending some distance from the rectum, anesthetize, incise, scrape the fistulous tract, and pack with gauze wick, shortening the packing each day. The application of phenol, ichthyol, and the like, is quite useless as long as the lining membrane of the canal remains intact.

In the more rebellious cases, bacterins may be used advantageously.

In the case of submerged tonsils, you may have to dissect out the glands. You know, of course, that a quite dangerous hemorrhage may follow injury to the anterior faucial pillar. Many beginners fear wounding the internal carotid. However, this practically is impossible, as will be realized by studying a diagrammatic section of the pharynx.

The special causes of severe bleeding are: (1) Hemorrhagic diathesis. (2) Fibrosis, which replaces the glandular substance, preventing the divided arterioles from retracting. Naturally, this condition more often is encountered where the tonsil is divided instead of being extirpated. (3) Age; hemorrhage occurring more frequently in adults than in children. (4) Sex. More frequent in males than in females. (5) Acute inflammation of the gland. Operation should never be done under such circumstances. (6) Anemia due to lack of fibrin-forming elements. (7) Abnormalities in the distribution of the blood-vessels. (8) Local use of cocaine and adrenalin, leading to secondary hemorrhage.

As you readily will observe, if the hemorrhagic diathesis and extreme fibrosis can be excluded, the possibility of undue hemorrhage need not be feared.

You will readily understand, doctor, it is impossible for us here to outline at length the various operations for the removal of the tonsils, which are: (1) guillotine, (2) enucleation, (3) cold-wire snare, (4) galvanocautery, (5) morcelllement.

If you can seize the tonsil and pull it forward and downward, it is probable that you can do a satisfactory tonsillectomy in this case with the guillotine.

Enucleation is indicated if the tonsil is shallow, wide-based, and so firmly adherent all around that it is impossible to press or drag the gland into the ring of the guillotine. In such cases, a general anesthetic is required.

The tonsil is seized and steadied with a conchotome, so that the mucous membrane above the upper pole can be divided with a pair of blunt-pointed scissors curved on the flap. This will allow the forefinger to be inserted between the pharyngeal wall and the capsule of the tonsil, so as to shell it out of its bed. If it remains attached below, where the tonsil shades into the lingual tonsil at the base of the tongue, separate with a wire snare.

We are inclined to believe that in your case the tonsil possibly can be dragged forward and gauged in the ring of the guillotine.

In this connection, let us call your attention to the excellent chapter on tonsillectomy in "Diseases of the Nose and Throat," by Thomson. (Appleton, publisher.) It is decidedly desirable, if any difficulty is anticipated, to anesthetize the child thoroughly. Altogether, we are inclined to think that, if you will elevate the palate, Mathieu's tonsillectome will remove the glands satisfactorily.

QUERY 5994:—"Nephrolithiasis." F. S. B., Oklahoma, asks as to "what is the best remedy for renal calculi, and whether there is any drug that will dissolve these stones or prevent their formation?"

As you will readily understand, doctor, the nature of urinary concretions, whether renal or vesical, first of all must be ascertained by careful analysis of the urine and other methods, treatment being governed by the findings.

There is not any drug known that will act as a general "solvent" of renal calculi. And then it must be remembered that calculus formation in the kidney is merely an evidence, or rather an end-product, of some abnormal process occurring within the body.

Modern urologists are inclined to designate calculi as "primary" and "secondary," according to their origin, the term "secondary" being applied to such calculi as can definitely be proven to be dependent upon bacterial invasion of the kidney. The causation of primary stone is still a matter of controversy.

Rainey's theory is accepted by many, namely: "When two saline solutions calculated to produce an insoluble salt by decomposition are allowed to mix gradually through a colloid medium, such as albumen, a small, firm, laminated body is developed, instead of crystalline matter, by the union of nascent salt with colloid."

More recent experiments, however, would seem to discredit the presence of colloid material as a prerequisite in the formation of calculi. Indeed, it is quite possible that the uric-acid infarcts present at birth may be the starting point of calculi in adult life, or any disease giving rise to excessive excretion of uric acid may produce a minute concretion which eventually may become of surgical importance.

It must be borne in mind that calculi may be present and extensive destruction of the kidney have occurred before any classic symptoms (hematuria, renal colic, fixed pain, etc.) occur.

Cole, in a recent article, states that most of the cases in which renal calculi have been

demonstrated by x-ray produced no symptoms sufficiently characteristic to justify an operation, and only those concretions engaged in the ureter or obstructing the pelvis cause typical renal pain.

Squire, in an article in the April, 1913, issue of *The American Journal of Surgery*, says:

"Patients complaining of slight pain in the back, tenderness over the kidney, and voiding urine containing a trace of albumin may be suspected of having calculi and should be given the benefit of a complete routine examination."

You will find this article of Squire's, and also another, "Report of Three Kidney-Stone Cases," by Bransford Lewis, in the same issue, of great interest.

In this country, the uric-acid variety of calculus is most prevalent, but in some of the worst cases of nephrolithiasis, oxalate of calcium calculi have been found.

Uric-acid stones and secondary deposits may vary in size from a grain of sand to enormous masses, some weighing as much as five pounds having been encountered. Calcium-oxalate calculi, on the other hand, rarely exceed the size of a hazelnut. Calculi are found more frequently in the right kidney than in the left.

The examination of the urine of a patient suspected of nephrolithiasis should be performed by a skilled bacteriologist. The practitioner should never be satisfied with his own examination. Radiography unquestionably is one of positive diagnostic method, if not the most important one.

The treatment is both medical and surgical and depends upon the symptoms of the patient and the aseptic or septic nature of the condition. Careful dieting is essential. Where the calculi are known to be small, diluents are of value; in uric-acid diathesis, alkaline diuretics should be given; in oxaluria, magnesium sulphate, saline laxatives, and dilute hydrochloric acid with the meals will prove helpful. In phosphaturia, give phosphorus, and arsenic. Acid treatment, i. e., dilute nitromuriatic acid, three times daily may prove beneficial.

It is evident that you cannot institute a "solvent treatment" for renal calculi. Where there is a tendency to the formation of calculi or small concretions are passing through the ureter, medicinal measures may prove beneficial; but if calculi of any size are present surgical procedure alone can afford relief, and the earlier the diagnosis is made and operation done, the better chance of the patient's recovery.

QUERY 5995. "Sterilization of Female With Contracted Pelvis." A. Y., Syria, requests an answer to the following question: "Three sisters died in labor, the fourth also was in labor not long ago, but her life was saved through craniotomy. Her pelvis was abnormal. What steps should be taken to prevent her from becoming pregnant again?"

It must be borne in mind that in these days cesarean section is comparatively so safe an operation that a contracted pelvis is not deemed a sufficient reason for sterilizing a woman; that is to say, of course, where it is possible for her to receive skilful attention in a properly appointed hospital. On the other hand, if the woman is tuberculous, or suffers from osteomalacia or other disease in itself a contraindication to pregnancy, she certainly should be rendered incapable of conceiving.

One of several methods may be pursued under such circumstance. However, ligation, simple section or exsection of a portion of the fallopian tube have not proved a positive preventive. Other methods are: ovariectomy, ablation of the fallopian tube or removal of a wedge-shaped piece of the uterine horn containing the respective tube.

The most simple method, perhaps, is exsection of an inch-piece, or so, of each tube proximal to the uterus and the burying of both severed ends under the peritoneum of the broad ligament. This is decidedly the operation of choice, as it would be possible, should pregnancy later be desired, to reopen the abdomen and anastomose the severed ends.

Extirpation of the womb, which frequently is recommended, should not be considered as a means of insuring sterility, particularly in the case of young women.

If further interested, you will find this subject thoroughly covered in the more modern works on obstetrics. We strongly recommend, doctor, that you procure "Principles and Practice of Obstetrics," by Joseph DeLee. (Saunders, 1913.)

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QUERY 5996.—"Sexual Debility." L. V. D., Missouri, has under observation a man sixty-

four years of age who is very anxious to marry again but feels his incompetence to attend to expected "marital duties." He is very desirous of reacquiring "ability." His life has been quite active in this direction. The man's bowels and kidneys are regular, appetite is good. He had a slight stroke of apoplexy over a year ago, but the result has entirely passed. He has a blood pressure of 180. Autocondensation, the passing of sounds (there is slight prostatic enlargement) and high-frequency current (urethral electrode) have given very little result so far. Chromium sulphate and brucine are now being administered.

The present writer has mailed to you a reprint of his rather exhaustive article on the treatment of sexual debility. If, after reading this carefully, you should desire further suggestions, it is important that you make a thorough examination of your patient and then furnish us clear clinical data; we shall then be in a position to aid you more effectively.

At present we will say that, perhaps, you will find nuclein and neurolecithin, alternated with nucleinated phosphates and aphrodisiac tonic, beneficial. You must remember, though, that your man is sixty-four years old, has had apoplexy and still has high blood pressure. Stimulation in such cases is dangerous, but without it we can hardly expect the restoration of sexual vigor. Nature is inexorable in this respect; though some men enjoy a species of Indian summer, the winter days must inevitably come. In fact, nature did not intend the old to reproduce their kind, and sexual activity without the possibility of reproduction is distinctly opposed to the natural order of things.

You state that your patient has led an active sexual life. Well, if a man overdraws his account at the bank, he must expect some day to have his checks come back marked "no funds." It is extremely questionable whether it is desirable to fan the dying flame. Very disastrous results as of course you are aware, have followed such a course sometimes. However, if we can aid you further, do not hesitate to call upon us.



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The Dull Season—What Next

"Man never is, but always to be, blest." You, doctor, are always going to "look carefully and thoroughly" into some of those old chronic cases that have been coming to you for months, perhaps years, but somehow or other you never do. Some day—when you "get time"—but you never seem to find the spare time. Always the urgent, pressing case seems to claim your immediate attention and pushes aside that less acute problem until some more convenient season. And, so, these unfortunate patients keep coming to your office, day after day, week after week; and you temporize and temporize, giving them palliatives and encouragement, always with the full intention of studying out their cases when you get a little more time. They never are, but always to be, cured.

Why not begin to face these difficult and obscure problems now? The dull season is at hand; the time of year when, if ever, you will have a little respite from the more urgent phases of your work. Perhaps you are thinking of going away to the city for a month or so during the summer and taking a postgraduate course somewhere. Perhaps you would like to, but can not.

Probably, doctor, it never has occurred to you that you have a splendid opportunity and ample material for a postgraduate course

right in your own home town, in these very cases which for so long you have been meaning to investigate. Yes, this is the very opening you have been looking for. Here, at your very door—your very own, in the intimate sense that a doctor's patients are his own people—are a dozen puzzling clinical problems waiting to be solved in a way that nobody but you can solve them, and offering all the field for your efforts in research and experimentation that you are likely to demand for the next month or two, to say nothing of the satisfaction to yourself and the gratification to the patients, as well as enhancement to your reputation that will come from such work.

It really isn't necessary that you should make a trip to a distant city and hang around a college or a hospital in order to get a postgraduate course. After all, one doesn't acquire very much information by sitting open-mouthed in an amphitheater, watching a professor work.

Everything of real, utilizeable value that you get out of such a course you get by digging for yourself. But, you can dig for yourself just as well at home. Certainly you have ample soil to cultivate; and, in any case, it will not be a bad idea to spend the slack months of the year on this ground once in a while.

In these day of modern facilities, you can have all the assistance and suggestion, and the advantages of other and better men's experience that you desire. There are books on any subject you may be concerned with—excellent books, clear, concise, up to the minute, which an overnight mail will bring to your door. Laboratories and other clearing-houses of scientific investigation stand ready to lend you aid, all within reach of the same convenient postal service. There is hardly an agency of diagnosis or therapy that does not lie as ready to your hand as though you stood in the center of a system organized for your special behoof—as, indeed, you do.

Why not, we repeat, put in some of your comparatively leisure time this year working out some of the problems presented by these obstinate chronic cases, first diagnostically and then, of course, therapeutically? There is that old case of acne or of eczema, for a starter, that has been wearing out your own and the victim's patience for the last year or more and defying all the routine measures that you could call to mind—suppose you get busy with some good biologic laboratory and have an autogenous vaccine made from the discharges, and see if you cannot, so to speak, get *under* the skin that you have been hopelessly attacking from the *outside*, and stimulate the disordered body to elaborate its own defenses and whip the enemy out? Don't forget, of course, to assist the body-defenses with appropriate medicinal and hygienic therapy. Get into touch with a good laboratory, cooperate with each other, and lay systematic, intelligent siege to the case together. Work it out.

That equally tedious and unresponsive case of rheumatism—give that a little studious thought, too. Draw upon every diagnostic resource that the modern laboratory affords, to run down the underlying morbid factor in the disease. Camp on its trail like a detective hounding down a criminal. As likely as not, you eventually will find that you have some sort of chronic infection to deal with, perhaps a gonococcus, perhaps a streptococcus, possibly two or three of these offenders; and you may further find that a bacterin of whatever type you discover will furnish just the stimulus that will turn the balance in the patient's favor and lead to a recovery which medicines of themselves could not bring about; or, perhaps, the removal of some intestinal cause, which, à la Lane, gives rise to fecal absorption and autointoxication; or the removal of diseased tonsils may bring the long-sought relief.

Whatever it be, go after it, thoroughly, systematically. Make a postgraduate course of it, a research campaign. You will find yourself actually working up an enthusiasm over these old "chronics" toward which you imagined you had got hopelessly "cold feet." You will get lots of genuine fun out of it; the kind of fun that a man gets in doing the work that he likes, and getting paid for it, besides.

No doubt you will get paid in money for a great deal of this work; still, paid or not, you will be amply repaid by the knowledge and illumination that you derive from the sheer excavating that you have been obliged to achieve.

You will make several discoveries and form several habits that will be of incalculable value to you in your busier campaign in later summer and winter. You will discover a realm of diagnostic and therapeutic resource you never dreamed existed—applicable to cases upon which, you had thought, the ingenuity of diagnostics and therapy had long ago exhausted itself. You will realize the immense dynamic power that a physician develops from connecting himself with a live modern clinical and biological laboratory, where all these modern miracles are being worked out at first hand. And you will get the habit of looking for resources outside the old conventional lines in which you have been accustomed to seek them, and of entering into offensive and defensive alliance with all the modern facilities which are a necessary part of the present-day physician's resources.

Get busy, doctor, and see how many of your difficult chronic cases you can get cleared up by the end of summer.

If there is one thing that you may certainly rest assured about, it is this—that you will never get big results without expenditure in some form or other. Everything must be bought.—Sir John Collie.

WHY NOT THREE YEARS?

When you are renewing your subscription for CLINICAL MEDICINE, why not send in \$5.00, to cover the reduced price for three full years? In that way, you will avoid a lot of inconvenience and, besides, will be assured of receiving your journal regularly for thirty-six months; incidentally, you also will be saving some money. Surely, you want your CLINIC, and you will continue to want it. Why not, then, make the next remittance \$5.00?

By the way, we hope a lot of our dear friends of the "family" will help us extend

the good work of CLINICAL MEDICINE by persuading some of their friends to subscribe. If every man who reads these lines would just say to his confrère across the street, "Say, Doctor Jones, you do not know what you are missing by not taking CLINICAL MEDICINE—better let me send in your subscription together with mine," he would, we believe, win the lifelong friendship and gratitude of that man, while we cannot begin to tell you how much it would please us. Why not do it?

How do you know that the pilgrim track
Along the belting zodiac
Swept by the Sun in his seeming rounds
Is traced by now to the Fishes' bounds
And into the Rain, when weeks of cloud
Have wrapt the sky in a clammy shroud,
O vespering bird, how do you know,
How do you know?

How do you know, deep underground,
Hid in your bed from sight and sound,
Without a change in temperature,
With weather life can scarce endure,
That light has won a fraction's strength,
And day put on some moment's length,
O crocus root, how do you know,
How do you know?

—Thomas Hardy.

THE SIXTIETH BIRTHDAYS OF EHRlich AND BEHRING

The middle days of March acquired this year a special significance, from the fact that Prof. Paul Ehrlich completed his sixtieth year on the 14th, and that Prof. Emil von Behring celebrated the same anniversary on the 15th of the month. In accordance with a pleasing custom, which, taking its inception in Germany years ago, has since been adopted in other countries, the principal German medical journals have celebrated these events and given testimony of the gratitude and veneration which is felt, the world over, for these mighty giants of science, by issuing special *festnummern* in their honor.

The *Berliner Klinische Wochenschrift* for March 16, the *Deutsche Medizinische Wochenschrift* for March 12, and the *Muenchener Medizinische Wochenschrift* for March 10, are dedicated to the two celebrities who have exerted such an important influence upon the scientific progress of medicine, and for whose labors and acquirements our ability and power of relieving suffering and disease and of prolonging life has been of such paramount importance.

It would be a pleasant task to review these special numbers of the three most important German medical weeklies, if it were not too

late for the May number of CLINICAL MEDICINE. So, it must suffice to say that they bring contributions from the leaders of medicine all over the world: from men like Metchnikoff, Roux, Maragliano, Simon Flexner, Noguchi, Alexis Carrel, Babes, Pawlow, Roemer, Lesser, Wassermann, Morgenroth, Hans Sachs, Hans Much, Charles Richet, C. J. Salomonsen (Copenhagen), P. K. Pel (Amsterdam), and many more.

The careers and the accomplishments of both men are such that we can only bow down and offer our homage to their masterly guidance; we can follow where they lead, thankful that under their leadership our power to do good and to relieve and prevent harm will be increased. May they live long to continue their important work in the service of humanity.

A SKIN ERUPTION AND BLOOD POISONING!

One day this writer sat in the office of another doctor, a woman, and saw her patients, as they came in. The telephone rang, and the person calling asked for treatment for a child sick with measles. The doctor looked surprised, as there had been no measles in that neighborhood, and she directed the parents to bring the child over for examination. It was a misty, drizzly day, and their home was in the country, two miles away; still, they bundled the boy up and brought him.

The eruption—as revealed when they arrived—was a fine, mottled scarlatiniform rash, and was general, simultaneously developing over the entire body. The tongue and throat were not scarlatinal, although the tonsils were swollen, the left one especially, and the throat reddened. Very little fever was present, but a day ago it had been severe. The left hand was tied up with a jagged injury from barbed wire. Uncovered, it showed an ugly infected wound, suppurating, with reddened induration surrounding it. The axillary glands were inflamed. What was supposed to be measles, therefore, was an erythema consequent upon blood poisoning.

The doctor prescribed carbolized poultices continued until the wound was clean, followed by wet dressings, also carbolized. Internally, quinine, 3 grains three times daily.

The personal experience of this writer, in the case of such infections, has been that, no matter how many or how large the secondary abscesses may be, the virulent infection resides in the original wound, and that this demands the most thorough disinfection.

Doctor, what would be your treatment of such a condition; seen, as this one was, for the first time? There are few, if any, topics better worth general discussion than the treatment of infected wounds.

While upon this topic, the writer desires once more to call attention to the amazing powers of the Bulgarian bacillus locally applied. He already has recorded one case of chancreoid cured in two or three days by applying tablets containing this organism, crushed to a coarse powder. Since then he has been applying these in another case, with quite as extraordinary results. But, before recording it, he is anxious to hear from any physician who also has employed these tablets locally.

I went by the field of the slothful,
And by the vineyard of the man void of understanding;
And lo, it was all grown over with thorns,
The face thereof was covered with nettles,
And the stone wall thereof was broken down.
Then I beheld and considered well,
I saw and received instruction.
"Yet a little sleep,
A little slumber,
A little folding of the hands to sleep"—
So shall thy poverty come as a robber,
And thy want as an armed man.

—The Bible.

KOREAN THERAPEUTICS

Dr. Mary S. Stewart, a medical missionary who has made a reputation for herself and gained honor for American medicine by her good work among the women of Korea, contributes a curious bit of native therapeutics. Thus, among other things, she writes:

"There is a much used prescription here for delirium tremens, pulmonary tuberculosis, dropsy, and so on: 'Catch a blue snake alive, put it in a bottle of fresh new wine, bury this bottle in the earth three feet deep for three months, then drink the wine; and, if you don't get well, you die.'"

There is more than a rude superstition in this—underlying it is the sentiment that the victim of an incurable malady should be relieved of the suffering, and the relatives of the burden. Delirium tremens may not exactly be incurable, but the drunkard who after three months should still be in need of such a prescription may come pretty near to exhausting the patience of his family. We need not go to the antipodes for illustrations—this writer recollects the Irish woman who gave her husband a teaspoonful of croton oil to cure him of the whisky-habit—she said it would kill or cure him—"dom'd if she cared which."

As to pulmonary tuberculosis: A woman once called upon this writer to come to her daughter, the last of her family, given up as hopeless and to die within a month. Said the mother: "I know she cannot be cured. I want you to use all your power to keep her here to the last possible day, and keep her comfortable and happy." That sick woman lived nearly eight months longer. Every day when I examined her she asked, "Is it today?" I replied, "Not today." Then a smile of content would overspread her countenance, as she knew that Death was being held off until some tomorrow. I am sure that never until then had I realized what a day more of life meant.

It has not been long since the whole country was startled by the report that members of a religious sect had put to death one of their numbers who was in the last stages of an incurable malady. For a time there was talk of a prosecution for murder, but common sense prevailed. Assuredly—the thing was wholly indefensible, no mortal has the right to take human life except as a penalty for broken laws; but—have ever you sat by the bedside of your best-loved one, who was dying of absolutely hopeless inoperable cancer?

American or Korean, cultured or savage, human nature, in the ultimate analysis, is much the same.

THE TREATMENT OF WHOOPING-COUGH

Pertussis, a specific infectious malady, contagious and epidemic, extremely common, remains obscure in its essentials despite numerous researches. Ribadeau-Dumas (*Ann. de Med. et Chir. Infant*) enumerates a number of microorganisms to which whooping-cough has recently been ascribed. Each of these organisms has been discovered in the sputa of the patients and some have been cultivated, but none has induced the malady or its lesions experimentally; neither has any of them communicated to the blood the special properties of pertussis.

The work of the bacteriologists has developed some curious hypotheses. Thus, for instance, Czerny looks upon the malady as a nonspecific catarrh, together with a psychic infection. So, also, Lesage and Collin find, in abnormally prolonged cases, a simulation of the paroxysms that can be cured by means of psychotherapy.

However, Bordet and Gengou found in the sputa a microbe which is now generally

believed the specific inciting agent. These microbes can be detected only at the very beginning, the sputa later becoming polybacterial. This discovery has been followed by the usual therapeutic applications.

Dulhoit, for example, employed the Bordet-Gengou serum in many cases, using doses of 30 Cc. many times repeated; and established the innocuity and good effects of such dosage. But Klimanko denies the curative properties of this serum therapy. His serum, in the hands of Ribadeau-Dumas, did not prevent the development of the malady; nevertheless, it favorably modified the symptoms. It is probable that, while this microbe initiates the malady, the production of the morbid phenomena is largely owing to other organisms, and a polyvalent serum may prove to be requisite.

In America, clinicians have employed vaccines, inoculating the patients with dead cultures of the Bordet-Gengou bacillus. Thus, Graham treated 34 children, injecting 20,000,000 microbes every four days, then every three days and secured amelioration in 17 cases. Others used the vaccine in 40 cases, and in 10 as a prophylactic. Of the latter, only 1 patient developed pertussis, which in this instance lasted only one week; and 7 had noncharacteristic coughs. The vaccine acted favorably if employed at the very onset in uncomplicated cases.

The best that can be said, from a study of these cases, is, that on the whole the impression is favorable to the bacterin method of treatment.

Nicolle and Cornor employed live cultures in 122 children, obtaining 37 cures, 40 ameliorations and no results in 27. Neither the patient's age nor the period of the attack made any special difference in the results.

The bacteriotherapy of pertussis can be judged only when many more cases shall have been recorded and studied. Meanwhile we still must have recourse to antispasmodics and antipertussics. Among these remedies, belladonna, grindelia, and drosera still are adhered to by many. Triboulet and Boye inject morphine even in infants of three months, excluding only albuminurics. This latter remedy does not act in complicated forms; however, in simple pertussis vomiting has ceased after the first injections given, and in their hands the cure was completed in only six weeks. At least, in prolonged cases, with paroxysms violent, frequent and persistent, morphine gave excellent service.

All of which, to say the least, gives very little encouragement to the clinician who is

familiar with the use of the two remedies for whooping-cough developed in America. Hyoscyamine, to moderate mucous irritability, and calcium sulphide, as an anti-microbial—what more is to be said about the treatment of this disease! As a treatment, the two remedies make the little patient comfortable and shorten the duration of the attack; as a prophylactic, they have been tried so often as to leave no question of efficacy; while, in both respects, the results are uniformly and decidedly successful.

A man who is in the dumps can say to himself: "Come now, brace up! Be cheerful!" but that will not make him so. What he can do, and do successfully, is to make himself act the way a cheerful man would act: to walk and talk the way a cheerful man would walk and talk, and to eat what a cheerful man would eat—and after a time the emotion slips into line with his assumed attitude. He actually becomes what he has been pretending to be.—Luther H. Gulick.

SPECIAL FEATURES FOR THE NEXT TWO MONTHS

Next month (June) we purpose to devote a good deal of space to the discussion of the alimentary diseases, especially those peculiar to the summer season. We sincerely hope that every reader who can give us something helpful about diarrhea, dysentery (in any of its forms), colics, indigestion (gastric and intestinal), cholera infantum, cholera morbus, or on any other subject falling under this general head, will sit right down and write us a nice little article on what he has found out. We are especially anxious to get brief, crisp records of personal experiences or helpful points in diagnosis and treatment. Only, please, boil them down to essentials.

Then, in the July number, we want to discuss the doctor's vacation, or rather we want our readers to discuss that subject. Tell us about some of the vacations *you* have had, about the automobile-trips, camping-trips, long drives or hikes, trips to the sea-shore or to the mountains, fishing-trips, hunting-trips, sea-voyages, European trips, in fact, anything or any good way to spend a vacation and just what is needed to do it most pleasantly, profitably, and at the minimum of expense.

Everyone who has an idea that will tend to help the other fellow is most earnestly invited to write it out for publication. Also send pictures, to go with your little article; kodak pictures will serve nicely. Please help the other fellow, and help us at the same time. Do not wait until the last minute to

prepare your article, but send it in right away; and if too busy to polish it up, we'll do that for you gladly.

The longer on this earth we live
And weigh the various qualities of men * * *
The more we feel the high, stern-featured beauty
Of plain devotedness to duty.
Steadfast and still, nor paid with mortal praise,
But finding amplest recompense
For life's ungarlanded expense
In work done squarely and unwasted days.
—James Russell Lowell.

GET A MOVE ON

A body in motion always overcomes one of equal mass at rest. The man who does things always gets ahead of the man who does nothing. Of men of equal capacities, the one who gets out and tries to do anything may make mistakes and be laughed at, while the other keeps under cover and avoids the peril of failure. The doer tries again, and yet again, and there comes the time when he does not mistake, but succeeds. Then, when the community needs somebody to do such things for the public welfare, it turns to the man who has had experience. The failures are forgotten; the man has a reputation for persistence. The other man may have admirers who assert that he might have done better if he had tried, but the fact that he did not try is against him.

Well, what of it? Why these platitudes, these axiomatic observations that teach nothing, repeating only, as they do, what everybody knows? They may have been in our fourth readers.

It is, because the world still needs these truths; still forgets them; still fails to realize them, to live them, to turn their concrete wisdom into the current coin of their daily lives. Because the most ultraconservative class in the community are the doctors—the last to take up a useful innovation, the hardest to be convinced of its utility.

While you are waiting for the serums and bacterins to be perfected, your rival has been winning a reputation by using them. While you are waiting for the Council to pronounce on the newly offered remedies, the man of action has rolled up an experience with them—an experience that powerfully influences this selfsame Council and prevents what otherwise might have been an unfavorable verdict. While you wait for automobiles to be supplied for ten dollars, your young competitor beats you to every case of accident or emergency; and when he is there he never

has had any better remedies than yours—and the people know it.

I have mighty little respect for the doctor who lets others take his business from him and then bewails their unethical methods. The Book says: "Be diligent in business," and that means far more than getting into a rut, a routine that goes along of itself with very little exercise of one's gray matter to keep it moving.

If there is any vocation on this broad earth that demands the use of every gray cell in a man's cranium, it is that of the doctor. Rightly so, too, for he is responsible for the welfare of his patients. He ought to study, to keep up and even get a little ahead; and if he doesn't, it is good for the community if some other doctor comes along who will.

Here are a bunch of new ideas as to therapeutics—who is to say whether they are good or bad? Who, if not you? Don't leave everything to the Council, the "authorities," and expect them to chew your mental food for you. They are only men, and fallible; and they are capable of doing only so much, seeing so much, securing just so much opportunity. You are in a better position than they to try and to judge, for you have the patients right under your own eye, and you know their personal peculiarities that modify the effects of treatment.

There isn't a man who has such chances for doing good work for the profession as the family doctor. All the work of the famed laboratories is only a preparation and an aid to him. His is the holy of holies, the arcana, the summing of the work done for him by all the rest. He is the Chief Justice of the Supreme Court of Medicine. He applies the acid tests to the product turned out by the great men, and ascertains whether it is true or base metal.

Doctor, do you know how much you have taught me? How many times you have set me right when I had strayed into a wrong road? How many times my theorizing has been straightened out and made practicable by your experiences? When I get enthusiastic over some brilliant suggestion, I always wait till I hear from the field before I presume to urge it on the medical masses. If about five hundred of you write to me that it is all right, I go ahead with confidence; but if five hundred more tell me it is no good, I draw in my horns.

The confidence with which I have advocated certain preparations is based upon this fact. One, two or six great men may denounce a remedy; but I have one, two or three thou-

sand reports, covering every possible phase of its application; and, great as the objector may rank, I know that I can teach him a whole lot about it. His objections have been met; his modifications have been tried out; his fears have been proved ungrounded by numerous actual trials. The deductions he had made after observing one, ten or twenty cases have been corrected by observations on ten thousand; and, incidentally, his cases may have been shown to be exceptional in character.

Get busy. Don't wait for the other fellow, but courageously butt right in and do the thing yourself. Do it, and report. Do this three times, and then, when someone wants to know about that thing, he will recall your name as that of a man who has specialized in that direction. One of our dear friends once published observations on cockroaches. Years later he visited a great eastern specialist, and was greeted at once as the man who had written so entertainingly about that predatory blatted orthopterous "varmint."

I should like to specialize on the first case that applied to me; but, if none did apply, I should specialize on the sanitation of my neighborhood. I *would* be heard—and known.

Every man has in himself a continent of undiscovered character. Happy is he who acts the Columbus to his own soul.—Sir J. Stevens.

THE ZEITGEIST

The Zeitgeist! What a pregnant, meaningful word! How shall we translate it into English? Certainly not by any equally short and significant word, for the English language does not contain it. Once in a great while it is given to some genius, by a flash of inspiration, to coin a word, or a term, or a definition out of the very stuff of the thing defined or named, which thereafter is unique, inimitable, neither to be copied nor counterfeited, like the thing itself.

Zeitgeist is such a word. It is no more to be translated, or even paraphrased, than Bergson's *élan*. It is, in fact, the same word from a different angle. What the *élan* is to the flux of the physical universe, the Zeitgeist is to the process of sociologic life. "The spirit of the times" is but a poor, shadowy wraith of all that the Zeitgeist signifies. Tide would be a better word. For, using this word as touchstone, the spirit of the times serves only to indicate the surface movements that result from the tide, and make it manifest, or at best the tidal wave

which occasionally rises and engulfs the age, but the Zeitgeist stands for the tide itself and all the current and undertow of which it is the net resultant.

It is the Zeitgeist which every great man, every man of destiny, in every age, consciously or unconsciously comprehends and allies himself with. It is the Zeitgeist that every successful statesman senses and interprets—differing therein from the politician, who concerns himself only with surface swells and ripples. It is the Zeitgeist that every great artist and novelist, in every period, has caught and visualized for the everlasting instruction of those who come after. It is, in fine, the Zeitgeist with which, to a greater or a less degree, consciously or unconsciously, every man Jack of us must be in temperamental sympathy and active cooperation if we are moving along with the times, since the Zeitgeist is at once the net motive from which all such movement springs and the end toward which it moves.

No man can properly evaluate his own calling and work or efficiently shape his own part in it if he does not get at least a general perspective of its relation to the Zeitgeist. The unthinking masses, of course, know nothing of the Zeitgeist, still less of any relation that they themselves bear to it—consciously, I mean. They are unwitting, more or less passive, participants in it; helping to make it, to be sure, but not knowing what they do. But the thinking man, and especially the man who is engaged in some particular form of work having a more than common influence that moves to and from the sociologic process of his age, can hardly escape the contemplation of his own particular calling in its relation to the Zeitgeist.

What is the significance and the interpretation of the Zeitgeist in its relation to medicine? What are the tides—or, rather, what is *the tide*; for there is ultimately but one net movement, orientating all the component tides—what, I ask! is the tide along which medicine is moving toward its destiny? And what is the destiny toward which it is being borne? For answer, we must ask the still larger question: What is the tide and what the destiny of the whole seething, restless body-social?

Body-social. The very word, I think, should lead us to expect the denouement which is being borne in upon us by every sign of the time. For what is the elementary significance of a social system but the recognition of the principle that no man lives to

himself alone, and the practical acknowledgment that each man's welfare is every man's concern? And, if this be admitted, one does not need to be a "socialist," in the sectarian sense of the term, to perceive that, in the ultimate perfected development of society, the body-social *will* assume responsibility for the welfare of its members, at least so far as those interests are concerned which are the inalienable and common rights of every citizen of a civilized community. Nor does it require any great keenness of vision to discern the pointing signs of the times, that we are rapidly moving toward this very goal.

One of these communistic interests involved in this forward movement is health. And it is as certain as the logic of events can make it that medicine—in which I include every agency for the preservation and protection and restoration of health—is fast on the way to being socialized. This is the *Zeitgeist* as it applies to medicine.

Already the outposts of medicine are in the hands of the State. Already a hundred agencies of a public and semipublic nature are in operation for the prevention and the cure of disease. And, surest sign of all, society is at last fully awake to the *economic* importance and value of health as a public asset, and is evolving ways and means of safeguarding it as a matter of public investment. Witness the movement within the last few years among the life insurance companies in the conservation of health (at first confined to their own policy-holders, but later, and more wisely, seen to call for extension to the public at large) which recently has culminated in the organization of the Life Extension Institute.

There is, I think, no question but that the ultimate destiny of medicine is socialization. I do not say socialism, because that represents the pet formula of a clique of reformers, rather than the sweep of a universal trend. Medicine will, eventually, become a public, a social function.

I do not mean, nor do I believe, that society will ever do for the individual, in medicine or in anything else, that which he can and ought to do for himself. All attempts in that direction, however well meant, slip over the proper limits of socialization and will have to be corrected. I am only too well aware that society never can make a man individually and inherently healthy, just as it never can make him moral. But society can, and will, administer the office of public health, as already it administers the office of public morals.

Nor is the fulness of this time, in my opinion, very far distant. In the past few years, this movement has been gathering tremendous momentum, and, even at this very moment, is increasing that momentum at a prodigious rate of progression. Such movements have a habit of growing by a sort of geometrical progression, so that one day a single multiplication brings the whole denouement toppling down upon us.

It is useless to kick against the pricks or foolishly to blind our eyes to the future. It is another habit these processes have, that they march relentlessly over individual disapproval or opposition. The wise man—in this case the wise physician—is he who discerns the *Zeitgeist*, who takes the measure of his future in relation to it, and who prepares for the developments which inevitably are on the way.

Successful men never neglect the treatment of a patient's personality. It is always difficult to listen to the recital of an irrelevant family history and of details which are obviously unimportant. The details may be trivial, but it is a fundamental truth that you can not succeed in treatment unless you have the confidence of your patient, and this you certainly will not have unless you listen to the recital of his woes.—Sir John Collie.

ASTHMA BRONCHIALE VERSUS DYSPNEA OF OTHER ORIGIN

A physician of Basle (Switzerland), Carl Staebule by name, makes a most sensible suggestion with regard to the differential terminology of asthma. The term asthma, he proposes, should be restricted exclusively to what is recognized as "true" asthma and now designated as "bronchial" and "nervous"—the latter distinction, however, becoming untenable in the light of modern research. All the other forms of spasmodic constriction of the bronchi, classified according to their various origins, it would be better to distinguish as, e. g., cardiac, hysterical, psychic, anemic, uremic *dyspnea*, and so on.

This seems an excellent idea, for, in this way, the simple term asthma at once would define that specific condition displaying all those classical features that make this malady so feared, and involving the idea of a congenital constitutional basis, as well as the presence of the tough mucous secretion with their Curschmann's spirals and Charcot-Leyden's crystals; besides the many other characteristic derangements of function. We heartily second Staebule's recommendation, thus to confine the term asthma to this specific interference with breathing, as based upon what

sometimes is called the "cosinophile diathesis."

Somebody said man was made to mourn. He was not—he was made to work out his life and in the work get as much pleasure out of each twenty-four hours as he has capacity to digest. No matter what job you undertake, if you can't work up a new layer of enthusiasm each day on it, get out; you can't succeed if you can't enthuse.—Henry D. Wilson.

AGAIN THE HARRISON BILL

We hope that before this number of *CLINICAL MEDICINE* reaches you the Harrison antinarcotic bill—without the objectionable proposed amendments—will have been passed by the Senate and signed by President Wilson. But whether it is passed or not, there are several points on which we wish to make ourselves perfectly clear.

First: We are not fighting the druggists. We have not tried, neither shall we try, to lay one single legislative pebble in the path of any honorable knight of the mortar and pestle. If the Harrison bill or any other bill contains any provisions that are oppressive to the decent pharmacists—and these are overwhelmingly in the majority—we shall be glad to join with them in efforts toward modifying or removing those features.

Second: We are unalterably opposed to, and ever shall fight with all our strength, any legislation designed to oppress the medical profession. That is why we have come out flatfooted against the proposed Nelson amendments to the Harrison bill. These amendments were slipped in at the last moment, evidently with the hope that they would be passed unnoticed. As one of our most distinguished Chicago physicians has stated in a telegram to Senator Lewis, such amendments "are dangerous to the best interests of patients and people of the country and are an affront to the integrity of the American medical profession." Read the article on the bill printed in this journal last month (page 360), and you will understand why this statement is true.

Third: We hope to be able to present the plain unvarnished facts in this matter, clearly and forcibly, but without passion, and without descending to abuse of our opponents. We have refrained from publishing communications from several readers, who are justly indignant at the efforts to tie their hands, simply because these communications have been too strongly worded. We do not want to do anything to array doctors against druggists. Harmony between them is better for both professions.

Fourth: We are uncompromisingly in favor of the unamended Harrison antinarcotic bill and have repeatedly urged its passage. We supported it as passed by the House of Representatives, although it placed very decided burdens upon physicians—more than upon any other class affected by it; we supported it as finally reported by the Senate committee, which made it more acceptable to the medical profession. But amendments similar to those proposed by Senator Nelson are unwise and dangerous, and these amendments should be killed. We think this will be obvious to the Senator himself when he understands the situation fully.

One thing more. After we had prepared the article which appeared in *CLINICAL MEDICINE* last month, and while it was being printed, we received copies of some additional amendments very recently proposed by the Executive Committee of the National Drug Trade Conference. Most of these amendments were good. For instance, placing hypodermic syringes and needles under the operation of the law seems an absurdity when we consider that every syringe package of a serum or bacterin would be treated in enforcing the law like a narcotic! The Committee was justified in trying to wipe out this provision. As a matter of fact, with *one* exception, we have not the slightest objection to any of the Executive Committee amendments. That one we oppose, because it would make it compulsory for physicians to keep records of narcotic drugs which they might dispense, no matter what the form, combination, quantity or dosage. Said records, according to this proposed amendment, would have to be made "in a suitable book" and "be preserved for two years in such a way as to be readily accessible" to government officials.

We are very sorry to be compelled to disagree on a single point with the Executive Committee of the National Drug Trade Conference. This Committee consists of a group of able and conscientious men, who are trying very hard to work out an effective measure and bring into agreement a number of conflicting interests. These men have done good work, and we honor them. But, in assenting to this record-keeping provision, they made a grave mistake. It is exceedingly offensive to the medical profession, which sees in it only an effort to make difficulties for the physician—and with the prospect of more difficulties to follow if this amendment is accepted.

Our objections to this phase were given, in part, in our discussion of the Nelson amendments (which also included this feature) in last month's *CLINICAL MEDICINE*, page 360. We may discuss it more at length in a later issue.

We believe that, on further consideration, the Executive Committee of the Drug Trade Conference will recede from its request for the inclusion of this recording feature in the bill. We may be permitted to express this hope, in view of our sympathy with its work and our sincere respect for the men who constitute it.

Again we urge our readers to keep carefully in touch with all proposed legislation. The physician should position himself on the right side of every sound reformatory measure; but he should not permit any man or any group of men to use legislation of this character to impair his legitimate freedom of action and lessen his professional usefulness.

The difference between hurrah and hustle is the difference between the new broom and the vacuum cleaner. One makes an impression for a few days, but the other grinds along and gets clear down into the roots of things day after day. There is always a reaction after a hurrah. There is no slipping back after hustling because—like a commodity mentioned in the Sunday school books—it brings its own reward.—Joseph Blethen.

EMETINE AND BRONCHIAL HEMORRHAGE

The re-discovery of the remarkable power of ipecac in amebic maladies has aroused among French therapeutists new interest in this active principle of ipecacuanha-root; but, as yet our Gallic brethren do not seem to have apprehended the far-reaching influence of this therapeutic triumph—a triumph wholly resulting from the substitution of this particular alkaloid for the crude vegetable drug itself. As we know, ipecac has ranked with epsom salt and castor-oil as one of the most common of domestic remedies. To attribute new curative properties to it would be deemed no more credible than the assertion about such powers in table-salt or corn-meal! That this South American plant made its first reputation as a remedy for dysentery, had become merely a curious bit of ancient history, on a par, almost, with the use of spiders' web as a hemostatic.

A number of French clinicians have, with success, applied emetine hypodermatically in the treatment of hemoptysis. One such case, recorded in *Le Monde Médicale* (Feb. 5, 1914) by Chauffard, is the most remarkable we

have yet seen. This was a hemoptysis from ulceration of the pulmonary vessels, with bloody expectoration, continuous and of long standing, and hemorrhagic attacks so grave that during one of them the patient lost as much as two liters of blood within four hours. To overcome this very dangerous state of affairs, all the hemostatics in use had been employed, but without any result. Finally, emetine cleared up the expectoration very rapidly, after which the hemorrhagic attacks ceased.

Unfortunately, the writer does not have access just now to the original report, hence, cannot know whether atropine was employed or not. But this he can assert, that a full toxic dose of atropine will usually control hemorrhage.

This drug, it must be remembered, increases capillary attraction of the blood, impounding it in the peripheral arterioles, by withdrawing it from the bleeding orifices; and, consequently, it cannot escape from the lesions, because it is not there to escape. All that atropine requires is time to develop its full action in actively dilating the capillaries. Since the latter have, collectively, 700 times more capacity than the arterial system, it is easy to realize that a slight increase in their attraction for blood suffices to withdraw that fluid from the gaping orifices of the larger vessels.

Atropine is a great remedy for alarming hemorrhages—a therapeutic ligature. The influence of emetine is yet to be determined, but it would seem to be more enduring. There is no reason for believing that atropine has any more influence upon the causes of hemorrhage or their recurrence, than the application of a silk ligature would exert. However, the case quoted above seems to indicate that emetine does influence the vital processes favorably. At any rate, whatever its mode of action, it is a very efficient remedy in cases of hemoptysis. It controls the hemorrhage with a rapidity of action that is sometimes marvellous and certainly hard to understand. Read carefully the report of what our French confreres are doing with this remedy, given on page 247 of the March number of *CLINICAL MEDICINE*; also, Dr. Cope's story of how it saved the life of his son, after other things—atropine included—seemed to fail. (See April number, page 352.)

Emetine is a great drug. We have known it all the time—and others know it now. Of course, it will not replace atropine as a hemostatic; rather, the two remedies will be

used together, or each to meet its special indications.

There is need of careful observation here and the correlation of many such to form a comparative picture. Will our readers who try out these hemostatics please report their results?

THE TREATMENT OF MUCOUS COLITIS

One of the dailies recently published a letter from a man who had had a personal experience with mucous colitis. He lost forty pounds in weight in four years. Symptoms: obstinate constipation, steady dull pain in some part of the colon, and colics in various locations. The treatment that proved curative was as follows: A hearty mixed diet; rest after meals, with a hot-water-bag to the epigastrium; eating bran and agar; cottonseed-oil enemas, up to 6 ounces, at bed time; and, lastly, stopping worrying. He regained his forty pounds in six months. Bismuth and belladonna were the drugs used.

Commenting upon this, Dr. W. A. Evans, former health commissioner of Chicago, says: "Treatment [of mucous colitis] is most unsatisfactory." That is an admission Dr. Evans may make, but one to which we can not invariably subscribe. Much may be done for these cases.

It has always been a question whether mucous colitis is a cause or an effect of the nervous depression and the instability invariably presented with it. To us, it is a question easily solved: The mental depression connected with diseases seated below the diaphragm is proverbial; and successful treatment of the colonic malady soon demonstrated its causal relation by the emotional rebound ensuing. This is paralleled by the brilliant effect upon the mind of successful local treatment of spermatorrhea—or rather of the underlying prostatic irritability. The prompt disappearance of hypochondria in such persons is impressive.

In the case cited, the elements of curative treatment were these: (1) Stopping the worry. (2) Full diet allowing better nutrition. (3) Keeping the bowels clear and stopping autotoxemia and local toxemia. Keep the hepatic secretion active, remembering the value of the bile salts. (4) The influence of atropine in checking the discharge of colonic mucous. (5) The local use of oil, a soothing remedy that also lubricated the bowel and promoted the passage of feces. It is also

probable that by absorption of this oil some local feeding of the debilitated tissues was gained.

But the large bowel does not absorb? Briggle! All tissues absorb when brought in contact with food-materials they need.

Roland G. Curtin once called the writer's attention to the value of the silver salts in mucous colitis. Since then we have given the oxide in many cases, and always with benefit. One grain of silver oxide at bed time is a good dose; the danger of its being changed to the chloride, being less at this period, while the long fast-period gives the drug time in which to act, undisturbed by food. There is little peril of argyria before at least one dram of metallic silver has been consumed. Best give the silver for one week, then change to zinc sulphocarbolate, then to copper arsenite; then back again to the silver, and so alternately. The treatment must be chronic, like the disease itself.

Always and always, nourish. Use any and all easily digestible and nutritious foods. Aid digestion with papayotin—acids do not seem desirable. Maintain body-weight by any—and all—digestible fats. Keep the blood fresh with the aid of a pint of fresh fruit-juice daily. Give buttermilk made with the Bulgarian ferment. In cold weather, rub the body daily with hot codliver-oil. Be careful and sparing with tonics; they are not well borne in full doses or when long continued.

Benefit is assured if the treatment is intelligently devised, skilfully applied, and persistently followed out.

If our first duty is to give honestly of our knowledge, the second duty is to give fully.—Dr. R. C. Buist.

NEURASTHENIA IN THE AGED

This malady, difficult of management in any case, is especially troublesome as it occurs in a man past his sixtieth year. How much of the disability is inherent to age?

As age grows, the muscular force abates. The man "slows up." He has been slowing up for years, but, unless he was a baseball-player, he has not noticed it. His muscles respond to stimuli more slowly; the intervals of rest before repetition become longer; the motions themselves are more deliberate. Comes the time when a day's work is accomplished only by thoughtful management, the man making his brain save his hands, and especially his legs. For, while the victim of hemiplegia recovers the use of his leg long before he does that of his arm, the aging man

finds the muscular weakness of senility appear in the legs first. Hence, he seeks to aid them by the strength of his arms whenever possible.

But even at sixty-five it takes something more than years to develop typical neurasthenia. Chief among the causes is fecal retention. To relieve this, we should rely solely on minute doses of a peristalsis-incitor, and a daily enema of water—2 quarts with 1 ounce of sodium bicarbonate. Warm, body-heat at first, gradually cooling it down until as cold as may be pleasant. The internal cold bath has the same beneficial action as when applied to the external skin; in either case, that is, if proper reaction follows. In cold weather, the effect of lowering the body-heat must be considered.

No single remedy compares with the cold bath as an incitor of vitality. This writer, in his sixty-fifth year, has been accustomed to a morning cold plunge. For a month he had no opportunity to follow this habit, by reason of traveling. Symptoms of neurasthenia developed until he felt like a very old man. Six days ago he commenced a new method—standing in the tub and pouring over himself a bucket of cold water. The result has been remarkable: today he is alert, quick in thought and movement, longs for work, and has cast off the consciousness of age. Reaction is immediate and rough towel-ing quickly develops a glow. But for the anemic, poorly nourished and weak this treatment would be too vigorous—too severe.

Open-air exercise: Always stop short of fatigue. Walk half a mile, swinging the arms and expanding the lungs, then stop. Do you feel tired? Certainly; and that is just when to stop. In an hour, repeat the walk, or the sawing of wood. And so every hour that you feel like it; but never when you feel more like sitting down. All the open-air exercise you can get, while never once becoming fatigued.

As to the food. Easily digested, nutritious articles, in quantities you can digest. Sour meats, pigs-feet, raw beef, oysters or eggs, milk, always warm, malted milk, nuts, a little of every food placed before you, the quickly digested breakfast foods, a pint of fresh fruit-juice every day; hot drinks with meals, preferably cereal, like oatmeal-gruel. Food every four hours, rarely more than a pint. Long chewing. An hour's rest after each meal, chewing some gum to develop salivary action; a hot-water-bag to the epigastrium, to favor digestion. No caffeine-beverages nor alcohol. Digestants like papayotin if needed—usually they are, and they do no harm.

Also, take six of the Bulgarian bacilli tablets every day. In two weeks you will have established a colony of this lactic-acid germ in your bowels; and thereafter two tablets at bedtime will keep up the force.

Now you see why I object to saline laxatives in these cases, for they inhibit the action of the Bulgarian bacillus. Sweep out the bowel with salts, and it will take two weeks to re-establish the colony. Besides, it is as great a mistake to hurry the progress of food along the small bowel, as it is to let it lie in the colon. Let absorptive reaction extract every particle of nutriment from the chyle before it passes the ileocecal valve. Turck found that when he washed out the stomach four hours after meals very little of food-elements came away, but the patient manifested unmistakable signs of denutrition.

Then—take your time. Rome was not built in a day. The vital processes are slower in advancing years. Reconstruction and rebuilding vitality are tedious processes. Look for many a backset—the man will persist in tiring himself in pushing his exercise, in neglecting the rather elaborate régime that is absolutely requisite. Officious friends urge him to eat more, to take “tonics” or “a little wine for the stomach's sake,” or to try some other doctor who offers more than you can honestly promise.

Success follows when the plan of action is judiciously laid, fully explained and comprehended, and faithfully and intelligently and patiently and persistently carried out.

DOCTOR COOPER'S BOOKS

Several physicians have written us, inquiring as to the possibility of procuring copies of the books written by the late Dr. William Colby Cooper. We have learned that his widow, Mrs. Cooper (living at Cleves, Ohio), has a limited number of copies, which she will be glad to dispose of to anyone desiring them; the regular published price of these books being as follows: “Immortality,” \$1.00; “Tethered Truants,” \$1.00; “Preventive Medicine,” \$1.00; “Primitive Fundamentals,” 50 cents; “Matter and Mind,” and “The Gospel of Philosophy,” both together, 50 cents.

We urge every reader of CLINICAL MEDICINE who knew and loved Doctor Cooper through his writings—and every one who knew him did love him—to procure from Mrs. Cooper copies of these books. In so doing, you not only will serve yourselves, but be of service to the dear Doctor's wife.

Leading Articles

Bacterin Therapy in Everyday Practice

By W. C. WOLVERTON, M. D., Linton, North Dakota

EDITORIAL NOTE.—Doctor Wolverton has promised to write us several papers upon bacterin therapy and its application in the work of the general practitioner. This is the first of his series. He writes, not as a laboratory specialist, but as a man very busily engaged in a large country practice. The problems he has to meet are the same with which the majority of our readers have to deal; for this reason we believe that his papers will be peculiarly appreciated and prove exceptionally helpful.

FROM conversations with a large number of physicians with whom I am personally acquainted, as well as from reading many papers written by otherwise well-informed men, it seems to me that there exists much misapprehension concerning the bacterial vaccines, and an unwarranted fear of possible deleterious action from their therapeutic exhibition.

The subjects of infection and immunity admittedly are complicated, perhaps made more so by a multiplicity of such terms as, for example, "agglutinins," "bacteriolysins," "opsonins," "precipitins," "alexins," "endotoxins," so that it is no cause for wonder that the man who was graduated before modern bacteriology was made a part of the medical curriculum is dismayed at the complexity of the subject and dismisses the use of the bacterial vaccines with the remark about the futility of teaching an old dog new tricks.

In the same way, many men hesitated about beginning the use of the active principles of drugs after having had many years of experience with the galenical preparations; but, once they made the start, they never turned back. And so with the bacterial vaccines; once let a man employ these products intelligently, and he finds that he has added a set of keen new weapons to his therapeutic armamentarium.

I have been making almost daily use of the bacterial vaccines, in a large general practice, for considerably more than three years, and can truthfully say that, when I administered them in accordance with therapeutic indications and in conjunction with the proper active principles of drugs, the vaccines have seldom failed to give splendid results.

It is because of this thorough tryout of the vaccines, in a large *general practice*, and because I do not regard the vaccines as a "cure-all" (but, rather, as a therapeutic adjunct of great value when properly employed, as stated, in conjunction with active medicinal agents), that I have been requested to write a series of papers, of which this is the first, dealing with various phases of vaccine therapy as it appeals to the general practitioner. And, naturally, the general practitioners make up the great bulk of the profession. So, I shall endeavor to present the subject in as simple and practical a form and as free from technical terms as possible.

Some Definitions

Now, to begin with, the bacterial vaccines, so-called, are not properly vaccines at all. Vaccines proper are living pathogenic microorganisms, whose virulence has been attenuated in some one of various ways. Probably the best example of a *true vaccine* is seen in antismallpox vaccine. Then there is the notorious tubercle vaccine, which was known as Friedmann's serum, but which evidently is a true vaccine; for, it is said to consist of a suspension of living tubercle bacilli whose virulence for man has been attenuated by being inoculated into a turtle. Another true vaccine is that used in producing an active immunity against the disease known in veterinary practice as blackleg.

The bacterial vaccines are suspensions of *killed* pathogenic bacteria in sterile physiologic salt solution, to which usually is added a small percentage of trikresol or phenol as a preservative, in order to prevent contamination from without the container. A *better name than vaccines* for these preparations is

bacterins, and this term will be adhered to in these papers.

A serum (in immunology) is the blood-serum of an animal whose resistance against a given variety of pathogenic microorganism has been raised to as high a pitch as possible by inoculation either of dead or of living bacteria of the given variety or by introduction of their toxins. These sera are commonly spoken of as antitoxins.

Immunity and Immunizing Agents

One cannot reasonably take up the study of vaccine therapy or of bacterin therapy without saying at least a few words on the subject of immunity—by which latter term we mean the specific resistance of an organism against invasion by specific pathogenic bacteria.

Now, immunity may be either active or passive. *Active immunity* may be brought about in two ways; namely: (a) By the introduction into the animal organism of living pathogenic bacteria of a proper degree of virulence and in sufficient numbers to produce an acute infection. Following recovery from this infection (if the patient survive), there usually exists an immunity against a second attack of the same disease, said immunity persisting for a variable period of time. (b) By inoculation with *killed* pathogenic bacteria (bacterins, bacterial vaccines). The latter method certainly is by far the more desirable, since no disease is produced.

Passive immunity is of short duration and is brought about (in so far as it concerns the subject with which we are now dealing) by the injection (subcutaneous, intramuscular, intravenous, subdural, and so on) of immune sera (serums) obtained from immunized lower animals.

In short, we inject into a patient *bacterins*, in order to create an *active* immunity; and *serums*, to produce a *passive* immunity. The former are used when we can afford to wait anywhere from a few hours to several days for their specific action (as in the treatment of all chronic and in many acute infections); the latter are employed where quick action is imperative (as in diphtheria, tetanus, and cerebrospinal meningitis).

We should be careful how we make use of the term serum, on the one hand, and that of bacterin, or vaccine, on the other. I have tried to make clear the difference between the two; and certainly the difference is sufficiently great. And, yet, I have often heard medical men, otherwise well informed,

speaking in county medical-society meetings about the use of typhoid serum when they meant typhoid bacterin. Typhoid *serum* practically never has been used in this country, and but little so in Europe. If a man does not know the difference between a bacterin and a serum, can he reasonably be expected to obtain satisfactory results from either of them?

It would, indeed, be a queer paper dealing with the topic of bacterin therapy in which no reference was made to the epoch-making investigations of Sir Almroth Wright. He it was who, building upon the firm foundation laid down by Metchnikoff along the line of the phagocytic function of the leukocytes (white blood-corpuscles), became the pioneer in the entirely new field of bacterin therapy. To those who wish to enter the study of this subject exhaustively, there can be no more interesting work than Wright's "Studies on Immunization."

In the beginning, Sir Almroth Wright tried the inoculation of patients, suffering from lesions due to the pyogenic cocci, with killed cultures of the causative bacteria, the cultures being obtained from the patient himself. Such a "vaccine" is said to be of the "auto-genous" variety, in contradistinction to a "stock vaccine," which is prepared from strains of bacteria obtained from patients other than those to whom the "vaccine" is to be administered. These early cases of Wright's consisted of furunculosis, sycosis, and acne (staphylococcus infections). One can well imagine the feelings of the great immuniser when case after case of these stubborn infections yielded like magic to the new therapy.

The Work of Almroth Wright

The first case reported by Wright was that of a man of 40 years, who suffered from furunculosis, complicated by sycosis and eczema of the face; these troubles being of seven years' duration. The man came under Wright's care in September, 1900; so, bacterin therapy is not so "new" as many seem to think. The patient just referred to recovered in about a month under his treatment.

I know of a similar case of sycosis, of over three years' duration; this man having spent in the neighborhood of \$300 in trying to rid himself of the trouble. Acting upon my advice, a brother physician administered three doses of a mixed staphylococcus stock bacterin at one-week intervals, and at the end of a month all signs of the disease had

disappeared, and a permanent cure resulted. My confrère afterward told me that the patient cheerfully paid him \$50 for having effected the cure.

Following his experiments with staphylococcus bacterins, Wright began to treat with a "coli vaccine" those infections of the genitourinary tract, the predominant micro-organism of which was the colon bacillus. It is in the paper in which he reported his results along this line (May, 1903), that he made his prophetic statement: "The physician of the future will, I foresee, take upon himself the role of an immunisator." Then followed reports upon the bacterin treatment of colitis and cholecystitis, infections of the meninges, the respiratory tract, middle-ear, and joint cavities.

Wright it was who revolutionized modern warfare by introducing, during the Boer war, prophylactic inoculations against typhoid fever, that scourge, until very recently, of military camps of all times. Now anti-typhoid vaccination is compulsory in our own army, as also in the armies of Great Britain, Germany, and other countries; and as a result typhoid fever virtually is a thing unknown in those armies.

In a paper published by Wright in 1904, he puts the problem cogently and succinctly thus:

"I will ask you to note, on the very threshold, that the method of immunization is nature's method. No one recovers from an acute or a chronic bacterial disease unless it be by the production of protective substances in his organism; no one acquires protection against a disease except, again, by the production of protective substances; and, finally, no one lives in the presence of infection and repels that infection, except by the aid of the protective substances of his blood. It is of the utmost importance that it should come home to you that we are dealing here, not with mere speculation; but with a generalization which rests upon a large body of veritable fact." [This was as far back as in 1904. The work of numerous other workers in bacterial therapy since that time has lent great additional weight to Wright's statements.—W. C. W.]

"Protective substances," he goes on to say, "may be defined as substances which enter into destructive chemical combination with bacteria; or, as the case may be, with other foreign elements introduced into the organism, either directly into the blood stream or by hypodermic injection." Wright then defines a vaccine as "any chemical substance which,

when introduced into the organism, causes there an elaboration of protective substances; or, more precisely, in technical language, it (a vaccine) is a substance which induces in the organism an elaboration of bacteriotropic elements."

Obstacles Hindering the Adoption of Bacterin Therapy

One of the greatest, if not the greatest, hindrances to the general adoption of bacterin therapy by the rank and file of general practitioners, is the belief that the dosage of the bacterins must be gauged by what is known as the patient's opsonic index.

In his early work, Wright and his coworkers preceded and followed each inoculation by a determination of the opsonic index, which, by the way, is an exceedingly complex and difficult piece of laboratory technic; and which, even in the hands of expert workers, is prone to give widely varying results. Furthermore, it has been proven by a great mass of clinical experience that much better results are attained when the size and frequency of dosage are based upon the clinical symptoms rather than upon the opsonic index. Consequently, we will not here enter into the technic of opsonic determination. Besides, it has been demonstrated that opsonin is only one of a number of protective substances entering into the production of immunity.

Another deterrent influence upon the general adoption of bacterin therapy has been the bogey of the negative phase.

When a *therapeutic* dose of an indicated bacterin is injected subcutaneously, there ensues a more or less brief period during which the specific resistance of the patient against the invading bacteria is temporarily slightly lowered; this is what is meant by the term negative phase. Following this brief negative phase, there should follow a rise in the patient's powers of resistance and a greatly augmented production of protective substances (also known as antibodies) in his blood stream.

If, on the contrary, too large a dose is given or if a second dose be administered before the positive phase be well established, then a prolonged and harmful *negative* phase may ensue. During a period of over three years, in which time I have personally administered close to 2000 doses of the various bacterins, I have seen very few clinical evidences of the negative phase; and in no case have I noted any harmful results from the use of the bacterins.

Prof. Timothy Leary, of Boston, writes as follows in *The Boston Medical and Surgical Journal* for October, 1910:

Efficiency and Harmlessness of Bacterins

"The general harmlessness of vaccines is indicated by two cases of infection in which, through error, 10 Cc. of staphylococcus pyogenes aureus vaccine, containing 10 billion organisms, were injected at one time as an initial dose. In one case, no untoward symptoms appeared. In the second, there was a temporary collapse, with prompt response to heat and stimulation. There are few powerful drugs in the pharmacopeia which could be used with such disregard for dosage, without serious results.

"The most serious objection to the use of vaccines in general infections is that the patient is undergoing extreme intoxication. I have called attention to the fact that physiologic doses of vaccine are not followed by a toxic (negative) phase. The dose of vaccine used in pneumonia, for example, contains fewer organisms than will be found in a few out of the myriads of infected air-sacs of the lung in this disease. The dosage is so infinitesimal and its toxic effect is so slight, if any, that it is not measurable.

"As evidence that even much larger doses are at least harmless, I might cite the case of a child of seven years undergoing an infection with pneumonia, with a temperature of 103 degrees and extreme meningeal symptoms, into whose body were injected, as an initial dose, 1,600,000,000 pneumococci. The standard dose for adults is 8 minims, or 100,000,000 pneumococci. This child, receiving 16 times the adult dose of vaccine, not only did not show harmful results, but began to mend shortly following the initial injection, and recovered under daily injections of several times the usual adult dose.

"A second child with pneumococcus meningitis showed prompt diminution [of the pneumococci—W. C. W.] in the cerebrospinal fluid and sharp amelioration of symptoms, accompanying the use of 4 to 8 times the adult dose of pneumococcus vaccine."

Drs. J. B. Deaver, J. C. DaCosta, and D. B. Pfeiffer make this statement: "As a contraindication to vaccine treatment conducted in this manner, we can only mention one, namely, overwhelming sepsis. It is not rational to expect help in such a condition, and from the nature of the case it is possible to do harm by adding more toxin, *though we have not seen an instance of this clinically.*"

Dr. W. R. Allen, London ("Vaccine

Therapy," 3rd edition, p. 117), in referring to the treatment of pneumonia with vaccines, says, among other things: "A weak, irregular, very rapid pulse, enfeebled constitution, low muttering delirium, dry, furred tongue, and sordes about the mouth are, of course, unfavorable signs; yet, so marked has been the improvement, even after one injection, in two cases of this type, that no case is to be looked upon as hopeless."

Dr. John H. Mudgett (*Medical Council*, Jan., 1912, p. 7), writes: "Finally, I desire again to emphasize the ease and facility with which bacterial vaccines may be used by the general practitioner; and also I wish to state that the use of bacterial vaccines is as safe as the employment of any of the potent drugs of the materia medica. They should be used by every practitioner of medicine as an accessory to his other methods of treatment."

Dr. J. G. Callison, discussing typhoid fever (*The Post-Graduate*, July, 1911), declares: "When given in therapeutic doses, such stock vaccines are without injurious effect and do not interfere with other treatment."

Dr. R. H. Dennet (*The Post-Graduate*, July, 1911), in referring to a case of typhoid fever, says: "The case was a very desperate one, but after the use of the vaccine went on to a complete recovery. The large dose this patient received certainly did no harm."

Dr. James M. Phalen (*Journal of the American Medical Association*, Jan. 6, 1912, p. 11), after reviewing the literature on the subject of typhoid-fever treatment with vaccines, writes: "All agree, however, that even in cases in which it causes no improvement it has done no harm."

Some Misconceptions—Terms Explained

Another thing which has hindered the general use of the bacterins is the idea held by many physicians that only autogenous bacterins, other than those prepared from extraneous sources, are of any value.

As already explained, an *autogenous* bacterin is one prepared from bacteria obtained from the patient's own lesions. A *stock* bacterin is one prepared from bacteria obtained from the lesions of some other patient or patients. A *polyvalent* bacterin is one prepared from several strains of the same variety or varieties of bacteria. Most stock bacterins are, and all should be, polyvalent.

It has been argued by some ultrascientific men that the immunizing mechanism of a given patient is more apt to respond to a

bacterin prepared from the special strain of microorganism producing said patient's infection, than if the bacterin were of the stock variety, i. e., prepared from extraneous sources. In actual practice, however, many times autogenous bacterins have failed signally; while, when a polyvalent stock bacterin has been substituted, the response has been as brilliant as it was prompt. The reason for this probably is that the patient's immunizing mechanism had become, as it were, habituated to the constant autoinoculations of the particular strain of microorganism causing the infection, until it (the immunizing mechanism) no longer responded. But when a variety of different strains of the given microorganism to which the immunizing mechanism was not accustomed was introduced, a marked response resulted.

Be that as it may, stock bacterins meet almost all the requirements of the general practitioner in his daily work, and it is only rarely that he will find it necessary to have an autogenous bacterin prepared. I myself have a complete equipment for the preparation of autogenous bacterins and have prepared a few of them; but, in acute infections, the need for prompt treatment is so urgent that the patient might well succumb to his disease while waiting for the preparation of an autogenous bacterin.

Stock bacterins are easily procurable, at very reasonable prices; autogenous bacterins cause great delay in instituting treatment, and are very expensive.

After an unusually extensive experience both with autogenous and stock bacterins, Polak and Van Cott, of the Long Island College Hospital, have said that, in their opinion, fully as good, if not better, results were obtained, in the majority of cases, from a reliably made stock bacterin of polyvalent strain than from autogenous bacterins. My

own experience has brought me to the same conclusion.

Mode of Administration

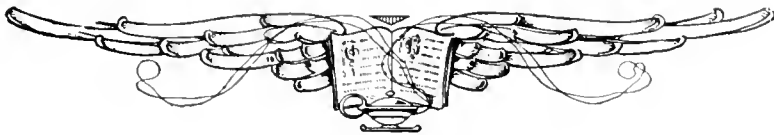
It is my personal belief that bacterins should be administered *subcutaneously*, rather than intramuscularly, for the reason that it is believed that the antibodies or protective substances elaborated in response to the injection of a dose of bacterin are formed principally by the connective-tissue cells, in the immediate vicinity of the site of injection. Following this theory, wherever feasible, it has been my custom to inject the bacteria at some point *distal* to the seat of the infection.

This is in accord with the dictum of Wright, who asserts that the antibodies are formed at the site of inoculation, and can then travel "upstream," along the lymph-channels leading to the seat of trouble. When this is impracticable, a good site for inoculation is just over the insertion of the deltoid muscle. In the case of children, I prefer the gluteal region as the site for injection of the bacterin, for the reason that the child cannot so well see what is being done; also, there is a great deal of loose subcutaneous tissue in this location, and the skin is not so well provided with sensory nerves here as in some other localities.

As to the matter of dosage, that will be taken up as individual infections are being considered in papers that will follow.

In closing, I wish to emphasize the fact, as I have said at the beginning of this paper, that bacterin therapy is not a cure-all, and that it is not intended to replace or displace entirely the older and time-tried medicinal remedial agents; but, rather, that drug therapy and bacterin therapy should go hand in hand, insuring better therapeutic results than would be accomplished from either alone.

(To be continued)



The Advance of Serum Therapy

By ARTHUR M. SLEE, Swiftwater, Pennsylvania

Assistant Director and Immunologist, The Snee Laboratories

EDITORIAL NOTE.—In this article Mr. Snee gives an interesting review of the present status of serum therapy, and explains some of the problems that confront the student of this new branch of therapeutics.

TWENTY-TWO years ago Behring and Kitasato succeeded in their endeavor to immunize horses against diphtheria and tetanus. Serum therapy was then in its infancy, for these men had but begun that chapter in the history of medicine and laid the foundation for a new list of therapeutic agents. Really, that chapter was begun by Jenner, the English physician whose discovery of vaccination against variola placed him one hundred years in advance of his time.

However, the use of smallpox vaccine, although closely allied, is not classed under the head of serum therapy; so, with this brief mention, let us leave the worthy Jenner and jump the long interval of years to 1883 and 1884, when Klebs and Loeffler isolated the bacillus of diphtheria and demonstrated its constant occurrence in the throats of diphtheria-patients. The following year Nicolaier produced tetanus in animals by inoculating them with garden earth. A little later, in 1892, Behring and Kitasato concluded their experiments, mentioned above, upon the immunization of horses with the respective toxins of the diphtheria and tetanus bacilli, and discovered the curative and preventive value of the serum of horses thus immunized. At first, the use of this serum was not practicable, because of the large volume required to obtain a sufficient number of antitoxic units; however, further experiments showed that some horses could be brought to yield a higher percentage of antitoxin than others.

A great many different methods of immunization have been tried in the last twenty years, but an absolutely infallible means has not yet been discovered, and the fact remains that some few horses will produce as high as 800 or 1000 antitoxic units to the cubic centimeter of serum, while others, in apparently as perfect physical condition and subjected to absolutely the same procedure, never yield more than 100 units to the Cc. The reason for this marked variance in yield among horses has not yet been discovered, and no man can predict whether a horse will produce high-grade antitoxin or not, until that horse has been at least one month under treatment.

Another difficulty which arose to confront those who advocated the use of horse-serum

was the fact that these serums in some persons gave rise to very alarming reactions, occasionally even ending in death.

It had long been known that horse-serum had an irritating effect upon guinea-pigs. If one dose of serum were followed in ten days or more by a second dose, the cavy would, in a very short time, show marked respiratory embarrassment and die within ten or fifteen minutes, apparently from asphyxiation. This annoying phenomenon was studied by Theobald Smith, Andersen, and others, and the name *anaphylaxis* was applied to it. But, inasmuch as normal horse-serum was known to produce this undesirable effect, obviously the antitoxic bodies in the serum of immunized horses were not the cause of it. Then, it was asked, why not eliminate all but the antitoxic part from the antidiphtheritic and antitetanic serum?

This elimination was attempted by Atkinson, of the research laboratories of the New York Department of Health. Atkinson did effect a partial separation of the antitoxin from the bulk of the serum, but the action of the product differed so slightly from that of the crude serum that it did not seem worth while going to the trouble and expense of adopting this method of refining as part of the routine in serum production.

The desire for a purer antitoxin had, however, taken root, and in 1905 Gibson, working in the same laboratory, carried the work started by Atkinson still further and obtained a more complete separation of the antitoxic globulin from the serum. Later, this method of concentration was greatly improved by Banzhaf, also of the research-laboratories named.

Banzhaf's method of refining and concentrating is recognized today as the most efficient means of removing the irritating constituents of the horse-serum, and it now is employed in many laboratories throughout the United States and Europe, refined antitoxin having practically displaced the crude serum. Not only has it almost completely eliminated the possibilities of anaphylaxis, rashes, and other undesirable after-effects—grouped under the name of serum-sickness—but it greatly reduces the volume of serum,

permitting a larger number of units to be administered in an infinitely smaller dose and with a minimum of inconvenience to the patient.

Standardizing Antitoxin

Ehrlich first pointed out the necessity of adopting a standard antitoxic unit by which all antitoxin should be tested. The antitoxic unit of diphtheria eventually agreed upon is that amount which will counteract 100 fatal doses of toxin for a guinea-pig weighing 250 Grams.

In the United States, each laboratory keeps a supply of test-toxin. A specified amount of this toxin is known as the L+ dose, or that amount which when mixed with 1 unit of antitoxin will kill a 250-Gram guinea-pig in three days.

Each month the United States Public Health Service Laboratories send out antitoxin a specified amount of which contains 1 antitoxic unit. The various laboratories then test their own standard antitoxin against this governmental standard unit. In this way a uniform standard is obtained. A similar method has been adopted for standardizing tetanus antitoxin; there being, however, certain technical differences.

As every physician knows, or should know, diphtheria and tetanus antitoxin are both of curative and of preventive value. All persons who have been exposed to infection from diphtheria should receive immunizing doses of 1000 antitoxic units. Of late, the practice of giving a large initial dose in diphtheria cases is coming into favor, in place of the older method of giving small consecutive doses. The highly concentrated antitoxin now obtainable makes this possible; 25,000, 50,000 or even more units not infrequently being injected at a time. Still it is wise to divide such large doses, injecting fractionally in several places.

Antitoxins Other Than For Diphtheria

In the case of tetanus antitoxin, it is of paramount importance that it be administered promptly. Owing to the peculiar action of the tetanus toxin, the curative effect of the antitoxin is not as great as that for diphtheria. However, if given before tetanic symptoms become visible, it will, in the majority of instances, save the life of the patient.

The practice of injecting tetanus antitoxin in all cases of suspicious wounds is highly commendable. Do not let me convey the idea, however, that its curative value is unworthy of consideration, for in many instances

it has been used in advanced cases of tetanus, with extremely good results.

Within a few years, Flexner and Jobling have prepared a serum for meningitis. This is produced by injecting a horse, first with killed meningococci, these, after a time, giving place to the live bacteria and, eventually, to an autolysate. This serum contains opsonins and agglutinins, as well as immune bodies specific for the meningococcus. To administer this serum, a quantity of the cerebrospinal fluid is drawn off by means of lumbar puncture, and a similar amount of the serum is injected into the canal.

Unfortunately, this rather delicate operation requires considerable practice and surgical skill. Not only must great care be exercised in introducing the needle into the spinal canal, but also it is essential that the amount of serum injected be almost identical with the amount of fluid drawn off. This antimeningitis serum has been found of considerable therapeutic value, having greatly reduced the mortality from meningitis.

In a similar manner as for the foregoing, specific serums are being prepared for gonococci, staphylococci, streptococci, pneumococci, and like infective germs, all of which have been found serviceable.

So far no method of standardizing these latter sera, with regard to their specific antibodies, has been found, although their opsonic value may be determined; neither has any satisfactory refining process been worked out. Since not only the specific antibodies but also the opsonins and the agglutinins are required to produce the desired effects, the refining of these sera presents a more difficult problem than that for diphtheria and tetanus.

It might be said that these remedies are, at the present day, passing through the stages through which the diphtheria and tetanus antitoxins passed some ten years ago. Although we still have much to learn regarding them, at least we know their value and can use them intelligently.

In addition to the sera already mentioned, a specific antitoxin is being made for snake poisoning, which has been used with very gratifying results and is in some demand in snake-infested countries. Also a pollen-serum, used in the treatment of hay-fever, has been found effective in some instances.

Normal Serum in Hemorrhages

I might mention here the use of the normal horse-serum in stopping hemorrhages. It has been found that, in the case of persons whose blood does not possess sufficient fibrin,

if they be injected with a small quantity of this serum before operating upon them, their blood will clot much more readily; in that way preventing possible serious hemorrhage. The serum is given subcutaneously, orally or is simply poured into the wound.

When we come to sum up our present successful serums, we find that they may be counted upon the fingers of the two hands. If serum therapy was in its infancy twenty-two years ago, it can but be said of it now that it is a sturdy and promising child today. There is a great field for research and experiment before us, for the chapter by no means is ended; and many intelligent and hard-working men are constantly being drawn

toward it. New discoveries are continually being brought to our notice, which tend to lead us nearer to the light.

Slight as our knowledge seems, when we consider that half a century ago the theory that bacteria were instrumental in the generation of disease was regarded by a large part of the scientific world as an absurdity, one begins to wonder that this knowledge of it today is not even more limited. In short, I am of the opinion that the men who have built up these new sciences—bacteriology and its offspring orrholgy (serology)—may well be congratulated upon the tremendous strides they have made toward the betterment of our race.

The Diagnosis and Treatment of Dementia Praecox

The Application of Nuclein to Its Arrest

By BAYARD HOLMES, B. S., M. D., Chicago, Illinois

DEMENTIA præcox, or the insanity of adolescence, occupies a unique place in medical practice and medical literature. It is not mentioned in Osler's "Modern Medicine," nor in his textbook, of which 100,000 copies have been sold! Fifteen thousand youths afflicted with this "disease," however, are committed to the madhouses of the United States each year, and they are pronounced incurable from the start. The management of these madhouses in Illinois (for example) is in the hands of five politicians, only one of whom is required by law to have any medical training or any knowledge of the problems of insanity.

No layman, and but few physicians, will believe me or anyone else when, in utmost seriousness and humiliation, we assert that *no effort is made* by any member of the Board of Administration in Illinois or by any of the faculties of the ten institutions under their direction to study the conditions of these unfortunate youths. The eight superintendents, who are political appointees, are full of "business," feeding, housing, and attending the many social needs of their irresponsible and helpless wards. The medical care of these unfortunates is intrusted to young physicians who have had little or no experience, and who get out of the service as soon as they can, if they are good for anything, because they cannot endure the unprofessional conditions of their environment.

When a youth suffering from dementia præcox is committed to one of these institutions he is locked into the ward, where he becomes noisy and boisterous or sullen and silent. In the former case, he is likely to be "beaten up" by the "nurse attendants" until thoroughly cowed and humbled. The attendants are omnipotent and remain in the institutions through all changes of administration. If catatonic, the patient curls up in bed and starves. The death rate during the first year is high. At the end of this year there is apt to occur a change—an adaptation. The emaciated patient—with swollen tongue, jaws protruding like an ape's, teeth rotting from neglect, hands, feet, legs, arms deformed from catatonia, abdomen and cheeks retracted from starvation—begins to wake up and become active or, on the other hand, he sinks to lower depths. During the first year of confinement to bed the patient is filthy half the time, lying in a bed wet in his own urine and befouled with his own offal—a picture of neglected misery that cannot be described, and that cries to civilization for correction or else euthanasia.

With this terrible picture, putting 300 great blots on the map of the United States where over 120,000 dementia-præcox patients are consigned to a pessimistic and nihilistic custody; with the boards of control of forty-eight sovereign states, expending for this custody of these wrecked citizens nearly \$50,000,-

000 annually, or four-tenths of the budget of the several states, with a suffering, but ignorant public, composed of the friends of the insane behind them and begging for betterment; with all these things, I say, they make no effort, spend no money and encourage no sacrifice for research for discovering the cause of this grave malady, or for finding some cure or way of prevention.

In Illinois, a research-institute was established by the Code of Charities (1907) but, with a legislative appropriation of over \$17,300, only two men are employed in its Psychopathic Institute.

How to Study Dementia Præcox

Fortunately, during the past year and a half, the application of the Abderhalden reaction to psychiatry has proved, beyond a possibility of discussion, that dementia præcox is a "disease," of which the mental symptoms and the deterioration are but incidents. Dementia præcox is not a perversity of conduct, a twisted idea or a curse of God. It is shown by this reaction that the pancreas and the genital glands are undergoing a degenerating process, as liver does in alcoholism and the thyroid gland does in exophthalmic goiter.

This terrible disease is slow in its onset, as a rule, and is characterized by a peculiar pupillary condition, a peculiar loss of weight, a peculiar perspiration, a peculiar arrest of growth of hair, a peculiar atrophy of the lower leg, and a peculiar condition of the blood. One may learn to recognize the disease by the two clinical methods: that of the asylum, where many cases can be studied in many stages of the disease, most of them in terminal conditions; and that of the physician, who sees one or two cases often in each succeeding stage of the disease. There is no doubt that each of these clinical methods has relatively some advantages over the other.

There are two more methods of studying the disease that ought to be utilized, but which are rarely employed. They each offer to the serious student employing either of the previous methods (the superficial study of many in a short time or the intensive study of a few over a long time) the greatest assistance in correcting misconceptions.

The laboratory method has been little used, and can be fully utilized only in the large general hospital, with a research-institute attached, like that at the Michael Reese with its Morris Institute or that at the Presbyterian with the Institute for In-

fectious Diseases, both of Chicago. There has been little laboratory study of dementia præcox. Even the condition of the blood has been only superficially observed, and hardly any coordinate studies of blood, metabolism, and conduct have been made. Therapeutic and laboratory investigation have not been undertaken.

The study of the literature of any medical subject is necessary to a full comprehension of all its intricacies. The literature of dementia præcox, under that name, is only twenty-five years old, but, now having the clinical entity well in mind, we can go back through the European literature of three hundred years and recognize the type; also even in the ancient Egyptian (in the Papyrus Ebers) for example, 1500 B. C., a clear picture of the disease is discovered. All four of the methods of studying the disease are necessary for its comprehension; namely: the prolonged and intensive study of one case, the superficial study of many cases, the laboratory study of one or many cases, and the reading of the world literature of the whole subject.

Dementia Præcox Characterized

From such a study as this, we conclude that dementia præcox is a condition appearing usually at the beginning of adolescence. It may make itself known at any later period. Its earliest manifestations are metabolic, and associated with various symptoms. In one case, it is simply nutritional; in another, skeletal; in still another, glandular. Various accidents and sicknesses precipitate the disease. The joints, the apophyses, the teeth, the tonsils, the intestinal functions are all and each apt to feel the intoxication. The use of the Abderhalden reaction in early cases has not as yet been reported, but one can readily guess that some remarkable disclosures in this direction are bound soon to appear.

The mind of the patient is apt to be greatly stimulated and the patient is prone to overdo in the beginning, but his vision and genius-like labor is followed by inactivity, depression, and apparent dementia. There are illusions, hallucinations, and delusions of mind, which result in errors of conduct; but dementia does not actually come on, and the patient, starving, mute, dirty, inactive, and fed with a tube, is perfectly conscious of his surroundings and remembers everything, has regrets and remorse, terror and fear, and suffers all the pain that rational persons do. These sub-

jects are also perfectly cognizant of ill treatment and kind treatment, but their delusions modify their conduct. They perceive, they conceive, but they cannot execute. In catatonia, they have muscular rigidity and in its early stage the condition is denominated negativism.

From a similar quadrajugate study, we conclude that there is no etiology, pathology or treatment of this disease yet recognized. The prognosis is always bad. Recovery is unknown. The duration of the disease is unlimited. While many cases terminate early in death, the great majority live to acquire tuberculosis or other intercurrent or institutional diseases, and die—five, ten, twenty or more years after commitment. The disease rests at times and the patient becomes an uncomplaining drudge about the asylum, after earning a man's wages for the state.

Enter the Abderhalden Reaction

The first light is thrown upon this disease by the Abderhalden defensive-ferment reaction. This method, introduced by Fauser¹, of Stuttgart, in February, 1913, and continued by him and by a great army of biologic chemists and serologists in Europe, has shown that the genital glands are disturbed in every case of dementia præcox—the ovaries in females, the testicles in males. In catatonic cases, the thyroid gland also is disturbed. In every advanced, severe and terminal condition, brain-cortex also is involved. The later, and perhaps more happy, work of Fuchs and Fremd², shows that the pancreas is as early disturbed as the genital glands, perhaps even earlier. The patients afflicted with other insanities, especially manic depressive insanity, show none of these reactions.

Our study of the literature of this terrible disease, the etiology and pathology of which are unknown, shows little hope of successful treatment. Some do get well, especially after an attack of the infectious diseases, and now and then a recovery is reported; just as in the seventeenth, the eighteenth and the early part of the nineteenth centuries cases of successful laparotomies were reported. In Massachusetts, when one out of 1500 admitted were reported recovered during a seven-year period under examination, the medical officer making the report was severely criticized.

Now it has happened that Bruce, Dide, Fischer, Halvar Lundvall, and Julius Donath have reported recoveries by the production of an artificial hyperleukocytosis, and this is the reason for writing this paper.

Has a Cure Been Discovered?

Lundvall made the most careful and extensive examination of the blood of the insane under his care, and developed the observation that there exists a polycythemia and leukopenia when the dementia præcox patient is failing, and a hyperleukocytosis and normal number of red corpuscles when the patient is improving.

In England and on the Continent, the nucleinate of sodium has been used to increase the leukocytes and produce improvement. One of the great objections to the use of this agent was the large quantity of water—50 to 100 Cc.—necessary, and the pain resulting from the injection of the large doses employed. Ittau, Fischer, and Donath have reported betterment, and even recoveries from its use. Julius Donath, in a recent essay, charges the psychiatrists with unwarranted pessimism toward dementia præcox, and reports actual recoveries after the use of sodium nucleinate.

Lundvall's Prescription

The most important and significant contribution to the treatment of dementia præcox comes from Halvar Lundvall, of Lund, Sweden. He uses a very concentrated solution, and has reported 18 cases, of whom 6 actually recovered, and all but 3 made remarkable and very desirable improvement. His report was obscurely published more than a year ago, and some improvements have been made in the preparation of the remedy at the "Apotheke Kjorten" in Lund. These improvements have been communicated to me by letter, and Mr. L. Breckwoldt of Sargent's drugstore (23 N. Wabash Ave., Chicago) has prepared the remedy according to the following formula:

Quassini depurati sicci Gm. 2.0
 Aquæ destillatæ Cc. 50.0
 Boil in a water-bath for one and a half hours,
 filter, and add
 Hetoli (i. e. sodii cinnamati) . . . Gm. 1.0
 Sodii nucleinati Gm. 10.0
 Acidi arsenosi (in solution) . . . Gm. 0.005
 Boil until all is dissolved, filter, and add
 Aquæ destillatæ bullientis, q. s.
 ut fiat Cc. 50.0

This remedy should be kept in a dark, cool place. It does not need to be resterilized.

In anticipation of the use of this remedy, the patient's blood should be examined

¹Fauser, A. D. m. W., Feb. 13, 1913, Vol. 39, p. 304-307.

²Fuchs & Fremd. M. m. W., Feb. 10, 1914. Vol. 61, p. 307-310.

and the leukopenia demonstrated and recorded; the bowels should be opened with calomel at night and a saline laxative in the morning, followed by an enema consisting of 4 quarts of hot water (105°F.), to which a tablespoon full of glucose (corn-syrup) has been added.

Then 1 or 2 cubic centimeters of the remedy is injected into the buttocks or other neutral place. In about six hours and after a slight chill, the temperature will be found to be 102° or 103° F., and the leukocytes will rise to 20,000 or even higher. The red corpuscles will go down nearly to normal, falling from 6,000,000 or higher to 5,000,000 or even to 4,500,000. There is usually an increase in urine. The reaction is stronger after the first and earlier injections, and later it is necessary to increase the dose even to 15 or 20 Cc.

The only guide as to the time for the next injection is the examination of the blood. The temperature stays up only a few days, but the leukocytes, in one of my cases, remained above 25,000 for five weeks. When the leukocytes fall below 12,000, then the dose should be repeated. When the reaction, as measured by the leukocytes, begins to weaken, the dose should be increased by 1 or 2 cubic centimeters.

Treat Like Tuberculosis

During all the time, the patient should be treated like a tuberculosis patient. Cold air, sunshine, and a good feeding—3000 to 5000 calories a day—are desirable. The daily bath and glucose enemas keep the patient clean and tidy. If the patient is mute and inactive, he must be taken to the toilet regularly, and great care must be taken with his teeth. Calomel and laxative salines often are necessary.

When it is possible, the patient should be exposed to the sunlight, cold air, and rain, just as Dr. A. Rollier, of Leysin, treats his patients suffering from surgical tuberculosis. ("Ergebnisse der Chirurgie und Orthopædie," Vol. 7, p. 1 to 146), and *Interstate Medical Journal*, March, 1914, Vol. 21, p. 279 to 284.

The uniform effect of these injections has been noticed by every one. There is a change. Every patient whom I have injected has gained weight, one as much as 20 pounds in six weeks. This is what might be expected, as the Abderhalden reaction shows a *dysfunktion* of the pancreas—and the pancreas is the lipase generator, the enzyme of fat metabolism.

It will be noticed that the hair grows more rapidly. If the forty-eight hour growth of the beard on a definite part of the face, cut before injections are used, is carefully laid on gummed paper or, better, measured with a micrometer, it will be found that, after the injections, the forty-eight-hour growth is at least half as long again. One mute catatonic, weighing less than 80 pounds, who had been fed with a nasal tube for three months, was led to the table a few days after the second injection and, with a little urging, fed himself. Interest in life increased in one young man, and he said he was "urged from within himself to eat and exercise and try to get well."

None of my patients treated with Lundvall's remedy have been examined by the Abderhalden method, but there was no doubt in any case of the diagnosis of dementia præcox. Every state institution ought to be able to make Abderhalden tests, and then this hopeful and promising remedy could be given an adequate and a conclusive trial.

If any reader of this article undertakes, from these directions, to treat one or more patients with Lundvall's remedy, either as prepared under his direction at Lund or by Mr. Breckwoldt at Sargent's drugstore in Chicago or by any expert pharmacist, I should be greatly obliged for a full, complete, and unabridged report.

Don't expect too much in a short time. Keep up the remedy with every possible improvement in the general hygienic conditions. As soon as interest can be aroused, cultivate it, but do not exhaust the patient. One young man, who had not written or spoken a word for four years, on several occasions, wrote his own name, after a little urging, after the sixth injection, and after a gain in tidiness and disposition that rendered his attendants grateful. His weight increased 10 pounds during the same time, he stood up straighter and walked better, going two or more miles twice a day.

Although I have used the remedy on only a few patients for six months, and every patient has improved, some have become more troublesome for the time. In an institution, the troublesome patient gets himself disliked.

It seems to me the remedy should be thoroughly tried, as it is painless and produces no abscesses. It is a thoroughly rational procedure. The patient's weight increases under its use. The inactive patients become active and thus cause more trouble, but they could hope to recover only by becoming more active.

The publicity given the method by *The Literary Digest* of March 7, has brought me a large correspondence and has aroused several centers of active therapeutics for this condition. I have in every case answered the letters and begged for reports of success or failure, and I shall hope to have a more

exact and comprehensive report in a few months.

The editors of this journal have undertaken to assist in furthering the treatment by supplying the remedy for experimental use when it can be administered under reasonable and favorable conditions.

My Experience with the Bacterins

By MALCOLM DEAN MILLER, M. D., Wollaston, Massachusetts

THE editor asking for articles on bacterins, to be written in the fewest possible words, I shall give a summary of my results, rather than reporting case-histories in full.

Gonorrhea

I began using the bacterins in gonorrhea about three years ago by treating all my chronic gleet and prostatic cases, and other long-standing Neisser-infections with the stock polyvalent gonococcus "vaccines" of different makers. I have used four different makes, with equally good results.

Looking back over my history cards for the last eight years and comparing results before and after employing the bacterin treatment, I find that all the later cases have been negative in examinations for the gonococcus in from one-half to one-third of the time required when no bacterins were used. I make a very careful microscopic study of all such cases, and during the last two years have found bacillus coli communis, a diplococcus resembling the pneumococcus, and both streptococcus and staphylococcus present so uniformly that now I seldom make use of a straight gonococcus bacterin, as I get quicker and better results from a mixed stock bacterin containing all these organisms.

In these chronic cases, inoculations are made every five to seven days, in much larger doses than commonly advocated. I seldom employ an initial dose of less than fifty million (50,000,000) gonococci, and, if the local reaction subsides within thirty-six hours, double that dose at the second sitting, and so on, increasing (unless the reaction is too severe and protracted beyond forty-eight hours) until doses of one billion (1,000,000,000) gonococci are tolerated. When this point is reached, examinations generally begin to get repeatedly negative; but, I continue the injections until the maximum dose no longer causes any more reaction than would

be set up by a syringe of water or a "squirr" of hyoscine, morphine and cactoid.

This attained, I consider the patient free from gonococci, although, of course, the accompanying catarrhal condition often requires further treatment with sounds, euarol, and other indicated measures. It is remarkable, however, how quickly the mucus in the urine diminishes under bacterin treatment, from the very first injection on.

For diagnostic purposes, I commonly employ a dose of five hundred million (500,000,000) gonococci, considering that a local reaction indicates infection; and conversely, no reaction, absence of living cocci. This test I consider useful in all suspected cases, because I have repeatedly confirmed a positive reaction by staining any available specimen by the Gram method.

Acute Gonorrhea the Best Field

Acute gonorrhea, however, seems to me to offer the best field for the use of bacterins. I have treated five male patients seen at the appearance of the "first drop," the initial doses being from 100 to 250 million gonococci. As soon as the local reaction had subsided, I doubled the initial dose, after which the symptoms almost entirely disappeared, no case going on to a profuse purulent discharge, or, in fact, there being experienced any more urinary scalding. After three or four doses, discharge being entirely absent, I have kept the patient under observation for several weeks and not terminated treatment until I obtained three successive negative tests, at weekly intervals.

The average duration of discharge has been about seven days. The injection intervals average about one every third day, and I feel sure that I get the best effect by using 250,500-, and 1000-million microbes. My old teacher at Harvard casts doubt upon my

results by saying that probably they were light cases; but I have never seen a case which cleared up in less than six or eight weeks under the irrigation-injection method.

The accessory treatment in this series has consisted of capsules of arhovin, by mouth, four times daily, and injections (after each urination if possible) of a weak solution of hegonon. This particular silver preparation is ideal for the dispensing physician, because it is not markedly hygroscopic, and, hence, it is very easy to weigh out 5 grains, dissolve it in 4 ounces of warm distilled water, and put it into an amber bottle, feeling confident that the patient has an absolutely fresh, active solution. The strength stated is near enough to that commonly advised, namely, 1-4 of 1 percent. It causes no discomfort. I tell patients they *must* retain the injection five minutes by the watch, even if they can find opportunity to do so only three or four times a day.

The only dietary restriction has been the exclusion of irritants, such as spices, for I believe there is too much starving of gonorrheics, and I prefer to furnish plenty of reparative material to aid the formation of antibodies.

Two cases of acute specific salpyngitis were similarly cleared up by means of three injections up to one billion gonococci, and gave negative results after the fourth injection, while examinations of vaginal and uterine swabbings also proved negative. Neither subject has since then had any symptoms or yielded a positive swabbing from the genital tract. Old cases, in which gonorrhea was suspected by the gentlemen involved, although assured by other physicians that they were "clean," have given me the characteristic reaction to a dose of 500 million, and have cleared up on bacterin treatment, supplemented by treatment with 10-percent silver-nitrate applications.

Pertussis

I have used Bordet's pertussis bacterin in several cases of whooping-cough, with brilliant results. One very severe case ran for over two months, with little amelioration, although held in check by means of strict alkaloidal medication. At that time, I could not get any bacterin, but later learned that a certain firm had brought one out, and ordered it at once. I gave half an ampule of 20 million, and within a few hours the spasmodic cough ceased entirely and remained absent for about thirty-six hours. I then gave a full ampule, with similar results, and the

third, which finished the cure, three days later.

Exactly similar results were obtained in the case of the mother of this child. In another family, all three children, aged 5 and 4 years, and 8 months, were infected. The two older ones cleared up in a very short time on calcium sulphide, nuclein, and calx iodata, without showing the characteristic whoop—in fact, the diagnosis was made on a history of probable exposure, and the spasmodic cough occurring at intervals. Neither patient received any bacterin, for I was not positive of the diagnosis, and they did so well on ordinary treatment that I did not feel justified in using it.

With the infant, however, it was far otherwise. Her attack was very severe, and I used bacterin as soon as the characteristic whoop appeared. This child, and one other, a delicate child of 2, required five injections, up to 50 million, before they were cured. I feel that in both instances earlier use of the bacterin, and doses repeated every second day, would have been better.

Cystitis

Mixed infections of the bladder in women occur quite commonly and often prove very resistant to treatment. Here, the ardor and frequency generally yield promptly to thorough irrigation with 2-percent boric-acid solution at 110 to 120° F., and one or two treatments with hot thymol-iodide oil solution; but the infection by no means is banished.

I have had some excellent results lately by using hegonon, 15 grains to the pint, and a bacterin containing the common staphylococci, streptococci, pneumococci, and colon bacilli. In one case, although no gonococci were present in the bladder, the husband gave a history of gonorrhea thirty years ago, and the wife showed abundant groups of Neisser's coccus in leukocytes in smears from the cervix uteri. This woman is now receiving the bacterin mentioned above, with a reinforcement of plain gonococcus bacterin, and she is improving very rapidly. The trouble is of thirty years' duration, having followed the use of the catheter in a twin pregnancy.

To Summarize

I believe that bacterins should be used in every case where the infecting organism or organisms can be identified.

I believe that stock bacterins, when rightly applied, always do good; and, even though

they may contain superfluous organisms, these can do no harm.

Failures when using the right bacterin are the result of timid dosage, at too long intervals. I aim always to get a decided local reaction, and generally double the dose at each sitting.

Failures may also occur because the bacterin does not contain one or more of the offending strains. In such a case, an autogenous bacterin should be prepared. I have had good results with autogenous bacterins in pyorrhea, though not reporting them here.

Dosage in chronic cases should be relatively larger than in the acute and the injections should be repeated at intervals of about a week. Frequent injections in acute cases.

Bacterins, applied under proper microscopic and cultural guidance, are more nearly specific than any other form of treatment known at the present time and offer the greatest hope for the future of non-drug medicine. Every general practitioner should keep on hand a stock of the most common single and mixed bacterins and learn to use them.

Bacterins: Their Field, Uses and Abuses

By ALEXANDER BARCLAY, Cloquet, Minnesota

FOR the past year I have been eagerly scanning the medical journals for an optimistic article concerning bacterin therapy, only to be disappointed month by month, week by week. At last I wrote to the editor of CLINICAL MEDICINE, complaining of this absence of such material, whereupon he kindly invited me to contribute a paper myself, so that I could have just what I wanted. I am sure this field can be covered in a much more masterly manner by some one more competent than I am; still, if a discussion can be started that will bring to light what heretofore has been kept hidden, the object of this paper will be realized.

Considering the possibilities, that the so recently developed bacterin treatment presents, such a dearth of literature concerning this form of therapy is surprising. It is almost impossible to pick up a journal that has not some reference to the blood-picture of one or more diseases; we are constantly hearing of the treatment of pneumonia, typhoid fever, nephritis, and the work being done on the stomach, intestines, and gall-bladder; but how little do we hear of the bacterins being used in connection with other and older lines of treatment?

Is this because this line of treatment has not been generally accepted as being of use, maybe of immense importance, or is it because it has been thoroughly tried out and found lacking? I am inclined to think that neither conclusion is correct. At any rate, I believe the great mass of medical practitioners throughout the country are neglecting one of the most potent and efficient forms of therapy at their command, one that is *never contraindicated*, one that can be employed in conjunc-

tion with any other form of treatment, and, last but not least, rarely does harm if it does no good. This certainly cannot be said of any potent drug.

Bacterial Invasion a Factor in Most Diseases

Most of the diseases with which the average physician has to contend sooner or later are complicated by bacterial invasion, if not frankly so at the start. Think this statement over carefully, going down the list: "colds," grip, tonsillitis, pharyngitis, bronchitis, pneumonia, tuberculosis, empyema; all these in the respiratory tract. A specialist could enumerate more. If the skin, nose, throat ears, eyes, and genitourinary and digestive tracts be thoroughly canvassed, the list grows to overwhelming proportions.

Is the best and most efficient means of drug treatment always entirely satisfactory in the treatment of these diseases? We know it is not; but do we, as a whole, condemn our treatment even while administering it? We do not, except he be a therapeutic nihilist, and for him I have no respect; he is a hypocrite and should not be practicing medicine; he is in the class of the fakers, and no better.

We use mercury and arsenic in syphilis, quinine in malaria, salicylates in rheumatism, antitoxin in diphtheria, and call them specifics, in so far as specifics exist; but do they always fulfil our expectations? Failing to do so, do we cast them aside as worthless? Then, why, I ask you, should we cast aside the bacterins, without giving them a thorough trial, because they have not proved a cure-all or done as much as we have expected them to do? Let us be as reasonable and consistent as possible.

I am not going into an ultra-scientific discussion as to the action of the bacterins upon the human body, for the reason that I am not competent to do so; but, if I were, the mass of physicians would not be interested enough to dig into and wade through it. Those of my readers who would go to the bottom to obtain a comprehensive grasp of the subject I would refer to the works of Allen and of Wright, both Englishmen.

What we as active physicians are concerned with is the business of seeing our patients returned to health in the shortest possible time by any and all means at our command. The best of every cult, "pathy," and "ism" is not beneath us, if it has value and worth.

Take the case of the common "cold," for instance. If the patient is seen early enough, we can sometimes "break it up" after a few days; but "how about it" when it has continued a few days and is in full development? The condition usually will go on to recovery in spite of what we give the patient, but not until the host has developed enough "antitoxin" in his body to overcome the infection.

The secret of the action of bacterins is, that by their help the body is stimulated to the production of antibodies much more quickly and powerfully than by the infection itself, and without the damage which would result if a like stimulation (in amount) were to come from the action of the infection. This, then, is the whole action of the bacterins; and, getting down to cases, it really is very simple.

Little Danger from the Negative Phase

Considerable has been written about the danger of the so-called negative phase following an injection of bacterin if given in too large dosage or in too short intervals of time. Without going into a lengthy argument on this point, I will say that the consensus of opinion lately has been that this danger is greatly exaggerated, except possibly in the use of the acne bacterin, the latter fact being borne out by my own experience.

In the case of acne, I have found, the lesions have increased and all symptoms were augmented in some instances following an overdose of the bacterin or when injections were made at too frequent intervals. Still, no other harm has resulted, while, strange to relate, many subjects have shown a marked improvement after several weeks' lapse of time during which no treatment of any kind was given; and this occurred in cases that had proven very stubborn and refractory to other kinds of treatment. I have had this experi-

ence in my own work. One such patient was a woman, thirty-eight years old, who had had the disease for almost twenty years, had spent much time and money with first-class specialists, and was worse when she came to me than she had been at any time previously.

Case-histories are not always satisfactory. The truth is often juggled, to make good reading, and I am not going to give an account of my failures in this article. Other men are rushing into print, condemning the bacterins after trying them in cases where possibly they were not indicated, where the dose was too small or perhaps the bacterin used was not of the proper strain. We have had enough of such articles for a while. I started out to write an optimistic paper.

Threatening Pelvic Abscess

How many of you have been called to a case that presented the picture of a woman getting ready to have a pelvic abscess. No sign of pus as yet, but a hot, dry vagina, backache, mild fever, prostration, pelvic pain and tenderness, with a big mass presenting, either to the side or behind the uterus, which was hard, not fluctuating, rigid and tender, and which apparently had developed in a few days; sometimes with a history of a gonorrheal infection from one to fifteen years previous, and sometimes with no definite history, but cause for suspicion?

What form of treatment would you suggest to prevent the continuance of the condition and the prevention of the threatened abscess? Do I hear an Eclectic brother say, "Echinacea"? Very good, what else? Speak up, now, and don't be bashful. This case does not interest us at all surgically as yet. We are anxious to get the woman well without surgery, if possible, and in the shortest possible time. Can it be done by any of the older methods recommended in textbooks or elsewhere? If so, I confess I do not know how, except in a very few selected cases—few enough to constitute a negligible quantity.

Very well, then. Here we have a case in which we confess ourselves impotent without recourse to surgery, and even then we must wait until the pus is there and can be reached and drained. Is it not worth while to try the bacterins in our effort "to use every means at our command," instead of calmly sitting by with folded hands and letting "nature take its course?" This, by the way, is a cloak commonly used by the incompetent, to cover his lack of initiative.

I have described a case to you such as I have met several times in my work. Rarely has it taken more than a week or ten days before nearly all signs of trouble were gone, except, of course, for immobility of the uterus and adnexas, resulting from adhesions in some cases; and those that went longer than that—usually went on to abscess formation, were opened and drained, but (mark this) the convalescence and time of discharge was lessened whenever they had the benefit of the bacterin treatment, by as much as several weeks, judging from the length of time usually taken in similar cases where no bacterin was employed.

We cannot get along without surgery. I do quite a little of it myself of one kind or another (Smile, you surgeons!); but we can do something at times to prevent the necessity for it. If we do not avail ourselves of the opportunity when it presents itself, we are not on the square, either with ourselves or with our patients. The surgical fee is the biggest every time, but it is not always best for the patient to have recourse to the surgeon. Whom, then, does the surgery benefit?

Remember, please, that I have no quarrel with the surgeon. I am writing an optimistic paper on the use of bacterins. Of course, I cannot make a "Practice of Medicine" of it, but a few more cases covering other fields of medicine may not be amiss.

Streptococcal Infection of the Finger

How about the probable streptococcal infection in the index- or the fifth finger, beginning with a small scratch or abrasion, very painful, no deep pus, red streaks up the forearm, with enlarged, tender and painful glands in the axilla; no sign of pus anywhere, except a superficial oozing from the scratch on the finger. Clean out the scratch as best you can, using any antiseptic—I care not which—inject antiseptics under the skin, surrounding the site of entrance, apply hot wet antiseptic dressings, open the bowels, put the patient to bed; in fact, "do everything at your command" to arrest the advance of the infection. And then will you occasionally see a patient get progressively worse, with chills, fever, coughing, sweating, and finally develop septic pneumonia and die in three or four days from general septicemia, despite the fact that you opened the arm from wrist to shoulder over the red streaks, drained the axillary glands, applied hot wet antiseptic dressings to cover the whole, and gave supportive internal treatment!

Yes, you probably have seen such cases, and so have I. Have we used every means at our command in these unfortunate and horrible cases? Probably, if we have not heard of the bacterins we should say "yes"—but everyone knowing bacterin therapy will answer "No," most emphatically, "No."

Streptococcus Infections are Controlled

In the past year, for the first time in seven years of practice, I have not seen such a case go on to a fatal termination, and this for no lack of opportunity. I save these patients now, thanks to the bacterins.

This type of case is incredibly rapid in its progress. Thank God they are not always fatal, but they are always slow to reach the stage of convalescence and drag along to a tedious recovery with more or less impairment of health and function of affected parts.

If seen early enough and recognized, the advance can often be arrested with no further damage than an involvement of the axillary glands which sometimes, if the streptococcal infection is overcome, will merely go on to suppuration if the staphylococcus is a complicating factor.

The reason for this is plain when we consider that the streptococcus is not an abundant former of pus. It acts too rapidly for the host to mass a defense against it except in the form of antitoxin, and in fatal cases this is done too slowly to be of much avail. It is different with the staphylococcus; this is the simon-pure former of pus. It does not travel so rapidly and it gives the body time to meet its invasion by a massing of leukocytes at the point of trouble, war results, and the big guns are heard in the form of inflammation and swelling; and the dead on both sides litter up the battlefield in the form of pus.

In such a case the bacterin is of incalculable benefit. It stimulates the body to the production of antibodies as nothing short of a severe infection will do. Patients who recover without bacterin simply manufacture enough antibodies of their own to overcome the infection. The favorable course is due largely either to a milder form of infection or to a quickly responsive mechanism in a robust host. Were it not for the immunizing power with which the human body is endowed this would have been a dead planet long before our advent thereon.

I have endeavored to pick out a few of the many instances wherein we are "up against it" for a satisfactory line of treatment, and in which we can not expect to obtain good results if we follow the teachings laid down in

the textbooks written twenty years ago, and which have not changed materially since then. If you agree with me that our old line of treatment is not satisfactory and are looking for something to supplement it, I think I need not send you a "night message."

If you are perfectly satisfied with what you are doing and are content to let your competitor "put it over you" every day you practice, I have nothing more for you.

Autogenous or Stock Bacterins?

As to what bacterins should be used and whether autogenous or stock vaccines are best, much has been written and much breath and good space wasted in disputation.

To the strictly scientific man, the autogenous vaccine or bacterin (I use these terms interchangeably but prefer the term "bacterin") is undoubtedly in favor. But—in the case of the threatened pelvic abscess with no pus formation, how would you go about getting your culture and be sure that you had all the organisms present? Or, in the case of acute coryza, how many different germs would you expect to find and what good would the bacterin be to you by the time separate cultures were grown, counted, mixed and paid for, except that you would have the satisfaction of knowing that whatever had been done, at all events you had been strictly scientific?

In the case of the rapidly ascending streptococcic infection where would your patient be if you had to wait three or four days to have the bacterin made, only to find possibly that your culture showed "no growth" or that the mail had been robbed or the bottle containing the bacterin had been broken in transit? (All of which has happened to me.)

In the case of a chronic infection where the element of time is not so important and the opportunity for obtaining a good culture exists, where you have the advantage of a bacteriological laboratory in your midst (in other words, where conditions are favorable) it is often better to use an autogenous bacterin. But if you fail to get results with it, do not forget that often a stock bacterin will prove satisfactory where the autogenous has failed. It may be due to a combination of the two that you get the results, but that does not concern you, unless you wish to be "scientific."

Brush up a little on your bacteriology and familiarize yourself with the kinds of bacteria commonly at fault in the various infectious processes. It would, of course, be the height

of folly to give repeated injections of a typhoid bacterin in the case of uncomplicated (?) pneumonia and expect to obtain good results from it; yet I suspect that an equally absurd procedure has been gone through with in many instances and the bacterin damned as a delusion and a snare through no fault of its own.

The Correct Dose

As to dosage, you must use your own judgment, being governed entirely by clinical symptoms, unless you wish to avail yourself of the help of the laboratory in determining the opsonic index. When all has been said and done, the "clinical aspect" is worth the most to the patient.

I try to give the bacterins as I give drugs, as indicated and to full effect. It is better, unless the case is desperate, to start the treatment with a fair-sized dose rather than a large one and to repeat it inside of twelve to twenty-four hours, increasing it each time until an impression has been made as evidenced by a fall in temperature, arrest in the progress of the infection if it is superficial and can be seen or palpated, and by an amelioration of general symptoms, such as sweating, pain, chills, and the like.

[The general rule for dosage is to give in chronic cases or mild cases a good-sized dose, repeating in five to seven days; in severe acute cases give *small* doses and repeat at *short* intervals, as described by Doctor Barclay.—ED.]

As to the *modus operandi* I use an all-glass syringe with a gold needle of medium caliber. I do not like some of the packages of bacterin put out, as the needle furnished and which must be used, is too big and is usually dull; this causes unnecessary pain. Make the injection slowly. I take about a minute to it and find that the reaction is not nearly so marked as when given rapidly and with some force.

Method of Injection

It makes no difference where the injection is made, so long as it is anywhere under the skin and not just below a joint. Since much of my work is done in the office, I find that a convenient place is about an inch and a half above the left elbow in the outer aspect of the arm, directing the needle upward. Put the needle in swiftly and the solution in slowly. Try it on yourself and you will know exactly the best way to do it next time.

Sometimes a sharp local reaction will follow; usually in about twelve to fourteen

hours. Occasionally, if a heavy suspension is used and injected too quickly, considerable swelling will develop and possibly some discoloration, but if the needle and syringe are reasonably clean you need feel no alarm; rest of the part and the application of a hot-water bag or a pint whisky bottle filled with hot water and wrapped in a damp towel will quickly give relief.

I wipe off my needle with cotton soaked in alcohol and paint the part with a 5-percent solution of iodine before injecting. Upon removing the needle I cover with a little cotton held in place with adhesive plaster. I have never had an infection follow and have given hundreds of doses in this manner.

Following my usual custom, when possible I charge by the case, making sure that the cost of the bacterin is fully covered. When this cannot be done, I charge for the call and add fifty cents or one dollar for the bacterin. I have had no complaints.

Many men in the field probably hesitate to use this form of therapy because they do not understand the "workings" of it, and possibly for fear of being called unscientific by their brothers who may ridicule the giving of "dead bugs" in vast numbers when they are not positive that these particular "bugs" are the ones at fault.

To them I would say: How many of us know or stop to think of the exact action that aconite has upon the heat-mechanism when we give a dose of it to control a fever? We took someone else's word for it in the first place, and have proved its value to our own satisfaction many times since.

As for any fear that may be entertained as to subsequent harm following an injection of "dead bugs," if you, for instance, give an injection of dead pneumococci in a case where the pneumococcus is not at fault, you have done no more than to stimulate the host to a production of specific pneumococcus antibodies, which, if not needed, will cease when its superfluity is made manifest to the host. In other words, you have vaccinated the patient against a pneumococcus infection up to a certain point and time, depending upon the size of the dose and the condition of the patient.

Do not expect too much from the bacterins. They are not a cure-all nor yet a specific for everything, but they have undoubted value, and are worth trial when used properly and intelligently. Because of this they should become a part of our armamentarium in our fight against disease due to bacterial invasion. They are not to be used to replace indicated medicinal remedies.

THE ROAD

By JOHN RHUDDLAU.

I said, "At the end of the road
I'll sit me down and write an ode,
Lift up my voice and sing a song,
But songless now I'll trudge along,
Teaching my spirit to be strong."
Many and many a weary year,
Through many a land, both far and near,
Silent and sad, I kept the road,
Trudging, trudging beneath my load;
Yet still I thought of days afar,
Of twilight peace and one great star,
Of time when I should sing a strain
Would heal my wound and banish pain—
When lo! from out the dust and heat,
I heard a bird to warble sweet:

With lighter load I took the road;
I sang a song, I mused an ode,
Forgetting quite to be forlorn;
Yea, hoped at eve for toil at morn,
And heard in dreams a faery voice
That bade my listening soul rejoice:

"Today, today, the present hour,
Above the weed behold the flower,
And many a rose, from mile to mile,
With fragrance, fragrance all the while.
Awake, awake, and go your way;
His heart is young who loves Today;
The road is short to him who sings;
His feet are shod with golden wings."

"While yet 'tis day pour out your lay,
For night shall come when no man may."

Making Good in Medical Emergencies

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE.—This paper is a further contribution to Doctor Candler's most interesting and helpful series on "Medical Emergencies," every installment of which seems to be more interesting than the one that precedes. The article, this month, will do doubt excite many a reader to contribute something in the way of suggestion for the treatment of infantile convulsions.

CONVULSIONS (INFANTILE)

EVEN the experienced physician is apt to have his nerves and his ability severely tried when called upon to treat the more severe form of infantile convulsions; but a young practitioner attending his earlier cases will feel tempted to regard with unmitigated contempt the therapeutic procedures he has been taught to employ, and may wonder whether fruit-farming or plumbing might not prove more desirable occupations.

In the first place, the surroundings under the circumstances are not conducive to calm thought or deliberate procedure, and, then, a convulsed child is not a pleasant object to contemplate; more especially so when the seizures recur at short intervals despite every effort to control them. Not infrequently the attendant not only has the child to treat, but the mother or other female relatives besides. As to this phase, more than one reader doubtless will have had an experience similar to that of my own one time, when I found myself dividing my attention between the child, held in a mustard-bath by a neighboring "wise woman," and the mother, tossing and screaming on a bed in the adjoining room, and, for good measure, the young father in a "dead faint" on the kitchen floor. If the average man, ruthlessly called from a sound sleep, to dominate such a state of affairs, does not regard it as an "emergency" and wish most sincerely that he knew just what was the right thing to do, he is either to be congratulated or pitied for his lack of imagination.

The Cause Often Obscure

Unfortunately, it is impossible to state with any degree of accuracy the cause of most eclampsias. We know, of course, that a convulsion is "a motor discharge resulting in muscular contraction," produced, possibly, by irritation of the cortical cells of the brain either directly or reflexly, or, it may be, by toxic substances in the blood.

We also have been taught that the condition is most often observed in children under two years of age. The laity insists

that convulsions are most likely to occur when a child is cutting its "eye-" or the "stomach"-teeth; and, as a matter of fact, after one has been in general practice for a decade or so, he begins to have a certain amount of respect for lay perspicuity. At the period indicated, "reflex irritation" most certainly may prove a factor, but whether the process of dentition or a stomach rebelling at the presence of indigestible material is to be regarded as the fundamental cause is another matter.

The mere fact that seizures stop promptly after the stomach has been emptied by the administration of 1-20 to 1-10 grain of apomorphine, hypodermatically administered, does not warrant the conclusion that the convulsions were caused entirely by abnormal gastric conditions. For, it must be remembered, apomorphine is a decided sedative and relaxant, and by producing emesis by means of this drug we simultaneously relieve cerebral congestion.

It is only by prolonged observation that one can differentiate with any degree of certainty between the ordinary convulsion of dentition or indigestion and the eclampsia ushering in an acute infectious disease or that bespeaks the condition of nervous disequilibrium, which leads to epilepsy. True, some writers assert that reflex convulsions from any cause, if repeated, may set up epilepsy, but, as for myself, I prefer rather to think that the constant occurrence of convulsions is an evidence of the epileptic condition of the subject.

Until we know a great deal more about the nervous system, the body-chemistry, and the nature of the prime animating force itself, we must continue to theorize. In the meantime, when confronted with a child in convulsions, we must do such things as a limited knowledge of causes and a wide experience of effect lead us to regard as most beneficial.

Some Important Facts to Be Remembered

It is well to bear in mind certain definite facts. During the first few days of life, convulsions may evidence meningeal hemor-

rhage; and, if the labor was tedious or instruments were used, this or some other brain disorder may reasonably be suspected. A single convulsion (especially if the child has been out of sorts for a day or two) may replace the initial chill of pneumonia or other acute disease. Usually, when this is the case, the seizure has passed and the child's temperature is rising rapidly when the physician arrives. Inquiry may reveal earlier exposure to infection, chilling, a cough, refusal of food or difficulty in swallowing, and this will facilitate the diagnosis. Under such circumstances, it is not necessary to "treat for convulsions," as young parents invariably will demand; "watchful waiting," elimination and restricted diet are the essentials. It will also be wise to order the child isolated in its bedroom for the next day or two.

A Practical Illustration

Within the month, I was called to see two children in convulsions. The first, a sturdy boy, a year and eight months old (one of a family of three, with normal healthy parents) had a single convulsion at the eighth month. Apomorphine hypodermatically and a hot mustard-bath (administered before my arrival), together with a copious high enema were all the therapeutic procedures required at that time. The child's health seemingly had been perfect after that.

Upon my arrival at the house, the child was found in a mustard-bath, beside the kitchen-stove, and just entering the third seizure within the space of thirty minutes. The mother explained that the boy had been perfectly well until an hour ago, when he crawled up on her lap and refused to be put down. Soon she observed that he was "white around the mouth," and then, without any warning, his body began to twitch and stiffen, the eyes rolled up, and the seizure was on. Being instructed as to what to do in such an emergency, the mother promptly put him in a hot bath; she also gave an enema and a small teaspoonful of wine of ipecac. A neighbor called me up by telephone, but before she could convey her message a second seizure occurred—more severe than the first one. The third attack (already referred to), developing in my presence, lasted several minutes, and it ceased only as the emesis produced by my injection of apomorphine occurred.

After vomiting, the child lay back, relaxed; the pupils were evenly dilated and the skin felt moist; the pulse ran 110; respirations, 18; temperature, 100° F.; the abdominal wall

was flaccid and the bowel had been thoroughly cleared out by means of an enema, and the bladder also was emptied. Then chloral was given per rectum, and, after half an hour's observation, the opinion was ventured that no further seizure would occur. However, almost with the words the child stiffened again—and I do not care to see any of my patients in a worse condition than was this little fellow before I could obtain any chloroform.

Moral: *Always* carry a vial of chloroform with you.

Difficulty of Securing Control

To make the story short, everything that could be done was done, yet, every eight or ten minutes the child would awake from a semistupor, give a faint cry, then become convulsed. The lips were drawn tight along the gums, thus emphasizing the typical risus sardonicus of the face; the limbs first twitched and then assumed steel-like rigidity; respiration almost ceased, cyanosis deepened, the pulse at the wrist became uncountable first, then almost indistinguishable. Certainly an alarming condition.

The untried physician, confronted by these conditions in a "new family," might well believe that his hair was turning gray. Here, fortunately, I had perfect order, implicit obedience, and the unwavering confidence of the parents; for, I had attended the mother before her marriage and delivered her of all three children. But *now* it certainly did seem that I was powerless—without knowledge, without effective weapon to save from the Grim Rider a child who, a few hours earlier, had made the house resound with his healthy voice. Chloroform, chloral, and the bromides (by rectum) did not prevent nor seem even to modify the severity of the attacks. A portable oxygen apparatus (secured from my house) helped a little during the cyanotic stage.

The choice now lay between morphine and some potent cerebral sedative and relaxant. I hesitate to give morphine to any child under such circumstances, so administered a full dose of lobeline sulphate. The drug was given just as a seizure passed and within four minutes the body was limp as a piece of wet rag, the forehead beaded with perspiration, and the white area about the mouth and nose so pronounced as to be startling. The child slept however—slept three hours, and has had no further convulsions.

Two days later, after the third thorough course of calomel and castor oil, my little

patient finally voided three *whole* navy beans!

Query: Did *they* cause the convulsions?

Another Illustrative Case

The other child was eleven months old and had a convulsion at 7:00 a. m., from which he had not recovered entirely when I arrived fifteen minutes later; that is, he was not thoroughly conscious, and the limbs were still twitching slightly. At this time the temperature was *subnormal*. The usual hot bath and enema were given and, as the skin was cool and pale, minute doses of atropine were administered. An examination of the chest revealed an apparently incipient pneumonia; within three hours the temperature was 102° F., and the diagnosis was positive.

These cases serve to illustrate the fact that no two convulsions are alike and that while there is no difficulty whatever in recognizing the condition itself, it is not always an easy matter to ascertain its cause.

It is fairly safe to state that eclampsia occurring without previous indisposition is of functional origin and in most cases the prognosis is favorable. However, it is well to be guarded in one's statements, for even a bean or other undigested matter may set up convulsions severe enough to prove fatal in certain individuals. Intestinal parasites—especially if they migrate—also frequently cause severe seizures in children. Convulsions occurring late in any disease are to be regarded as extremely ominous.

The Basal Treatment

Granting that he could proceed more intelligently if he knew the causative condition, the physician must base his treatment upon such evidence as is available. If the child is not already in a hot mustard water bath or pack, the sooner it is placed there the better.

While working, ask questions, and *observe* closely. If the patient is an infant, inquire whether the food has agreed with it or whether it has been changed recently. Have the bowels moved naturally? Have heavy curds been vomited? Is there any possibility of injury by a fall, or otherwise, or has it swallowed a foreign body? Has urine been voided? Always, while asking, verify the accuracy of the information obtained, if possible.

Examine the abdomen; a tense or tympanitic condition may mean retention of feces, intestinal obstruction (especially if vomiting has occurred) or extreme fermentation.

The bladder may be distended, even though

only small quantities of urine have been voided.

Look particularly for evidence of rachitis. Convulsions are particularly frequent in rickety infants—and they are likely to be troublesome.

Foreign bodies in the nose and ear may cause convulsions; an examination will show their presence or absence.

The Medicinal Treatment

If the convulsion may reasonably be supposed to be of functional origin, give apomorphine hypodermatically (gr. 1-20 to 1-10), then pass a catheter into the bowel and flush it thoroughly with warm normal saline solution, repeating the injection if the first water is expelled violently in gushes. Give a full dose of chloral (preferably by rectum) and hyoscyamine by the mouth. The "calmative" formula originated by me some years ago will prove effective in most cases. (It consists of hyoscyamine sulphate, gr. 1-2000; monobromated camphor, gr. 1-64; scutellaroid, gr. 1-32; oil of cajeput, oil of anise and menthol q. s.) One-half to one tablet is administered in hot sweetened solution and the dose repeated if necessary in fifteen or thirty minutes. Push till flushing of the face or dilation of the pupils is secured.

If no further convulsions occur after emesis, the enema and hot bath, and the condition seems satisfactory, order calomel gr. 1-10 to 1-6, every fifteen minutes till a grain has been taken, and two hours after the last dose give a laxative saline or one ounce of castor-oil.

Milk and barley water should be the only food allowed an infant for twenty-four hours; but older children may receive such light foods as milk toast, cereal gruel, soft-boiled eggs, and the like. To such patients, give diastase and papain (gr. 1) after each meal as a digestive aid.

Scutellaroid and solanine may be administered three times daily for a few days as nerve sedatives. If the presence of worms is suspected, santolin should be given with the calomel, and the same course of medication repeated on the third day.

During an attack, should the convulsions persist, give lobeline sulphate, gr. 1-200, hypodermatically; it may be necessary to repeat this dose. It is essential to secure *complete* relaxation. A few drops of chloroform may be administered upon a folded handkerchief held an inch or two from the face, during the convulsion.

(To be continued)

Some Accuracies of Practice

The Correlation of Precise Methods of Diagnosis and Treatment

By B. G. R. WILLIAMS, M. D., Paris, Illinois

Author of "Laboratory Technic for Practitioners"

EDITORIAL NOTE.—This month Doctor Williams takes up "Oxaluria," an interesting subject about which most of us know little. He gives us some useful "pointers" concerning its accurate diagnosis and successful treatment. Read the article through carefully. You will obtain much help from it.

NOW we come to a crystalline deposit that is of especial interest to the man who does not do major surgery alone, but must fall back upon the use of drugs. This subject is regarded as a "perfect bore" by the journals which cater to the operating class and gains but little attention from the belly-technician.

"Belly-technician?" you echo? "Ridiculous!" And, so, I am obliged to slip in an explanation parenthetically.

Ah! dear reader, can it be that you have failed to keep informed upon this question of technicians? Land sakes! Tomorrow, if you wish to be in style, you must be a technician, not a physician. Technicians will be distinguished (such is the trend) by the locality in which they work. I shall be a "laboratory-technician." (For has not the term been thrust upon this group of physicians, February 7, 1914, by the classified advertisements of a medical publication which carries no questionable advertisements; and does that not settle the matter?)

The man who performs the iridectomy will be an "eye-technician;" he who finds his place at the bedside of the sick babe must accept the term "nursery-technician;" and he who dispenses to his patients or prescribes for them cannot reject the name "dope-technician." *The Technical Record* will meet competition—*Annals of Operative Technology*, *Journal of the American Dope-Technicians' Association*, etc. So we shall have nerve-technicians, skin-technicians, oral technicians—

Hold! Several years ago, at one of our universities, a medical professor insinuated that the members of a certain dental class were but little more than technicians, comparing them with iron- and wood-workers. Thereupon these men refused to attend this professor's lectures, and their action was not criticized by the faculty. Physicians may be content to be technicians, but will dentists?

Now hear him squeal—I mean the fellow who started this technician reform. He first of all is a technician, and the term will stick.

Bawl, if you will, fattened, royal, self-decorator; you dare not kick against the pricks:

Class A pseudo specialist: "But, kind citizens, I am an honorable technician!"

Class zero physicians: "So are we all—all honorable men."

"Say, fellows, let's be fair? Seems like I've started something. If I've got to be a technician, all right; but, O, Lord, not a belly-technician! Be a little lenient!"

So, henceforth our repentant brother shall be known as an "abdominal technician."

Oxaluria Dolorosa

The subject of painful oxaluria (oxaluria dolorosa) I have covered so thoroughly elsewhere that now I can but review some of its chief features. For the laboratory aspects, I shall refer the reader to *The Archives of Diagnosis*, July, 1913; and for the clinical aspects, to *The Medical Record*, June 14, 1913.

Hematuria and renal distress (ureteral distress) may arise from the persistent passage of certain forms of crystals of calcium oxalate through the upper urinary tracts; and the formation of a calculus is not necessary for the occurrence of such hematuria and connected symptoms. Furthermore, this explains many of the milder cases of nephralgia, as well as some of those protracted and severe ones which at operation reveal the kidneys apparently normal.

The symptoms often are bilateral in this primary form of renal disease; still, unilateral pain does not rule out painful oxaluria. The skiagraph is negative; and here the negative evidence is as important as the positive, because calcium oxalate would necessarily be included in the makeup of any calculus which might be present. (We have not concluded that calculus and oxaluria dolorosa might not coexist.) The symptoms and signs go hand in hand with the cause: the irritation is a moving one; hemorrhage and pain increase directly as the amount of sediment increases. The crystallization in pain-

ful oxaluria is specific, being truly acicular, or identical with that of the raphides of the poisonous arisema, for example.

The line of treatment here suggested is that which was advised in an article contributed to *The Medical World* last January, namely:

Advice in regard to diet has been somewhat misleading, inasmuch as it has been too generalizing. Our dietetic principles have been well worked out and apply to practically all cases, but this is not true with regard to the medical treatment. That is to say, observation has taught us that a drug which may prove of great value in one instance entirely fails us in the very next. I have seen oxaluria dolorosa relieved by hexamethylenamine (fermentations of unknown but acid nature in the upper urinary passages); I have witnessed its relief by excessive water drinking and diuretics (concentration of urine favoring precipitation of oxalate of calcium as sharp crystals); I have seen hydrochloric acid and diacid sodium phosphate perform miracles in the painful oxalurias, but not when the acidity was excessive.

While indications are not always clear in the matter of medical treatment (for our knowledge concerning the etiology is not complete), they usually are very plain, indeed, and are furnished by a careful examination of the urine in a given case. In other words, the dietetic treatment resolves itself into an attempt to reduce the intake of oxalates or oxalate precursors, but the medical treatment aims at an effort to prevent their precipitation as insoluble acicular crystals in the upper urinary tract. Let us say, "prevent precipitation" rather than "redissolve precipitate," because we believe that, once precipitated, these crystals are not easily redissolved; in fact, I know of no asserted saxifragrant.

The Dietary Aspect of Oxaluria

It may be well to look first into the dietetic aspects, since this advice will apply in almost every case.

We must, if possible, reduce the oxalate intake; furthermore, we must reduce such foodstuffs as are likely to give rise to oxalates, by virtue of fermentation and otherwise. Prescribing of water should be included at this point, inasmuch as most of these urines are very highly concentrated; although we must remember that merely diluting a urine will not always relieve painful oxaluria, and other urinary findings must be considered.

The recommendations offered below are

based upon actual observation in cases treated by physicians and in which we have made rather complete laboratory studies. It will be observed in these tables that carbohydrates are, as a rule, reduced, for we believe that when excessive they favor fermentations in which oxalic acid is formed. More than this, clinical evidence is suggestive of the fact that oxalic acid may be vicarious to glucose (in diabetes).

It has been found that these patients do well upon meats, but, also, that these should not, as a rule, be fried. They may eat in desired amounts oysters, beef, fish, mutton, chicken, game, salads, peas, eggs, and milk. Fresh milk, boiled milk, skimmed milk, buttermilk, butter, cheese, and so on, may be taken in large amounts. An exclusive milk diet, however, is not advisable; it may be well to prescribe a milk diet as a nucleus when beginning treatment, and to add slowly to this. A milk diet may be rigid in the acute case.

Water should be taken in tremendous amounts. If the patient suffers from nocturnal enuresis (to withhold water entirely, means to concentrate the urine, thus favoring irritation), water may be pushed during the fore part of the day and avoided in the evening. Lithia tablets may be added to the water, to give it a "distinctive taste."

Prescribe along lines similar to following: Drink a cup of hot water before breakfast, plenty of water during this meal, and a large cup of cold water after breakfast. (Water may be acidulated or rendered alkaline, according to medical indications.) A large cup of water should be taken every hour through the morning and in the early afternoon. After 3 p. m. the hourly glasses may be left off if the child suffers from nocturnal enuresis.

The following articles may be eaten only in moderate amounts: Bread, hominy, rice, toast, oatmeal, batter-cakes, crackers. Beans and potatoes favor fermentation, and must be avoided in acute cases or taken in but small amounts where absolutely necessary to vary the diet. Soups may be "pushed" (except at supper in nocturnal enuresis). When preparing soups, avoid vegetables named below. Empirically, pies, cakes, and fried dishes are to be feared, possibly because they cannot be or are not eaten in moderation.

The list of vegetables to be avoided is well known to most physicians. Very nearly every fruit and garden vegetable is included. However, the most pernicious group of foodstuffs for these patients, and which should be

almost entirely avoided, are these: Candies, syrups, ice-cream, tomatoes, pie-plant, oranges, carrots, string-beans, garlic, asparagus, celery, spinach, plums, strawberries. Obviously, this works a great hardship upon these patients; but it is a notorious fact that summer oxalurias are more prevalent and, as a rule, more severe than those of the colder months. Apples, pears, peaches, and melons contain small quantities of oxalic acid, but can be allowed in moderate quantities.

Hints About the Medicinal Therapy

Indications for the use of the several drugs usually are supplied by the uranalysis. In some of the baffling cases, we may also be compelled to investigate gastric hypoacidity or hyperacidity; but as a rule the urinary condition gives the most usable information.

These urines generally are concentrated; the specific gravity may soar so high that diabetes is suspected. It is easy to see how oxalates may be precipitated in such a urine; and such a urine should be diluted by the prescribing of water and mild diuretics. Often these urines are neutral or alkaline. Thus, if there is no gastric hyperacidity to contraindicate, acids may be called for. (I have witnessed excellent results, in one case, from the use of free mineral acids.) However, the normal acidity of the urine is supplied, not by free acids, but by acid salts, especially diacid sodium phosphate. Certain organic acids have been recommended in this connection, but these are very closely related to oxalic acid, and I see no rational basis for employing them.

Sometimes these urines are excessively acid, in which case, acid treatment of course is distinctly contraindicated, inasmuch as it may actually favor the absorption of oxalic acid in the duodenum, not to speak of increasing an already excessive acidity of the urine. Of course, alkalis may be given, but I have never witnessed good results from them.

I have come to believe that oxalate precipitation may be favored by certain fermentations as yet but little understood but acid in nature, these high in the urinary tract. And thus in these very cases I have observed some beautiful results from the use of hexamethylenamine.

Magnesium has been recommended as a drug perhaps of value in many cases of painful oxaluria. I have not seen it tried, but doubt its value in the form of the sulphate, such as mostly is advised. Very little of this salt would be absorbed; while, upon the

other hand, it would draw water from the tissues into the bowel, thus concentrating the urine still further.

As to the Urinary Celt Elements

Let us now consider the cellular elements which may be found in the urine. The worker must resort to differential counting in many cases to decide just which types of epithelial cells are most important.

Bladder-cells occur in cystitis, and when in considerable amounts suggest a rubbing-off by mechanical means; but a second thought should lead the worker to distrust this explanation. If a stone is present, this might, of course, rub off some cells; however, these cells may be present when no such mechanical factor exists. A soaking-off is more likely to prove the explanation. Changes in reaction, products of bacterial fermentation, retention of the abnormal urine, and the factor of concentrated solution, all these play an important part.

The remedial measures are plain: correct the reaction, decrease fermentation, relieve retention, and so on. Really, it is not a very serious matter, unless large numbers of cells are lost; for the function of the bladder-cell is protective only, and they probably are easily regenerated. We shall meet a different problem in the case of the highly specialized kidney-cells. Ureteral cells may be lost in a severe case of oxaluria dolorosa. Treat the cause.

Kidney-cells occurring in the urine in considerable numbers or persistently is a matter not to be taken lightly. The pathologist tells us that the cell from the uriniferous tubule, when lost, is not regenerated, and that its neighbors must take upon themselves the work of the lost one, or else this work be left undone. Cells from the renal parenchyma are easily identified in the urine of nephritics. I cannot enter into anything like a thorough discussion of the varied aspects of desquamative nephritis (or nephrosis), except to call attention to some of the causes concerned, that we may find a foundation for treatment.

In bilirubinuria, we have an example of a desquamative nephrosis. The renal cell is unable to excrete the bilirubin or, in doing so, is slain and floats away in the urine. In primary contracted kidney, we find another cause for desquamation. The parenchyma may be last to suffer, but eventually the contraction of the organ causes a mechanical dislodgment of the epithelial cells, and they leave the basement-membrane forever. An epithelial shower in a plainly interstitial

Bright's disease must be regarded as a fact of grave prognostic portent.

Neither of these processes can be regarded as chief, bringing death to the ultimate secreting unit of the kidney, for all of the nephritides must be regarded as parenchymatous, at least in part; and here acid retention (Fischer) appears to be the chief factor in desquamation (just as we have shown it to be in cloudy-swelling, coagulation necrosis and granular disintegration). In fact, the acids may pick upon the cement-substance first of all, dissolving it, so that the cells are no longer bound to the membrana propria, but slip off into the current, either singly or in groups.

Briefly, dilution and alkalization are very strongly indicated. I can do no better at this time than to quote from Fischer in this connection (*J. A. M. A.*, May 31, 1913):

"The toxin (unknown) is responsible for the abnormal production of acid in the cells of the kidney. . . . But it should be recalled that the acid intoxication is itself proportional to the concentration of the acid; and this, too, we must keep as low as possible. This can be done by giving water. It must be insisted upon, moreover, that the administration of water shall be regular. . . . The night administration of water is as important as that through the day, for the production of toxin does not stop with nightfall. If the water contains an alkali of some sort, so much the better. If the patient will tolerate it, 0.5 to 1.0 Gram of sodium carbonate may be added to each glass of such alkaline or plain water."

I have gone much more deeply into the diagnostic significance of renal cells in another article (*American Medicine*, Sept., 1913), to which I shall refer the reader.

Spermatozoa in Urine

Spermatozoa may be found in urines under a number of interesting circumstances. Conditions may be classified as normal, semi-pathological, and pathological. Normally, spermatozoa may be found in the urine voided just after coitus, and no treatment is indicated. Distinctly pathological is the escape of spermatozoa secondary to tuberculosis of the prostate gland, during a severe typhoid, in diabetes, in painful oxaluria, and so on; and the treatment must be aimed directly at the cause.

It may be ventured that most cases of spermatorrhea are truly pathological, perhaps all of them are. Careful study often will show some lesion of the genitourinary tract—

frequently an old gonorrhea. But now and then we run across an obstinate case where, if any such lesion is present, it cannot be discovered either by the history or examination. Occasionally the loss of seminal elements is startling. The urine may bear the peculiar rank odor, may be turbid, and the microscope show hundreds of the spermatozoa in each field. These patients often masturbate excessively; and this should be stopped by mechanical means as well as by appropriate mental treatment.

Chromium sulphate is advised as an empirical measure in these cases. It will fail in more than 75 percent of all cases—that is my observation; but now and then it will give results that will more than compensate for the failures. Sedatives are often advised; but I am convinced that these work more harm than good, especially in those who masturbate, in that they relax cerebral impulses which might inhibit this almost truly reflex act. The clinical proof is seen in epileptics—not because they are epileptics, but because they are under the influence of the bromides. When all else fails, the passing of cold sounds or even circumcision may effect a cure.

Lipuria and Chyluria

Fat droplets may occur in the urine after catheterization; or the smegma may contribute an occasional dab of grease; and in either case such findings are of no pathological significance. It is an interesting point that fat metastases often occur after fractures, especially in the aged, and such fat may be voided by the urine. Fatty embolism may be coincident, as I have witnessed in two fatal cases, once at autopsy and another time where the symptoms were quite conclusive along with lipuria.

Those of us who practice in the tropics will have to deal with filarial chyluria, but it is doubtful whether the rest of us come into contact with many cases of true lipuria. I venture to say that the finding of large droplets of free fat in the urine usually means contamination of the specimen with extraneous matter. Nevertheless, careful urinary work often will demonstrate small fat droplets within casts or within the protoplasm of desquamated renal cells (pioepithelium). Such findings mean fatty degeneration of the secreting kidney-cells and is very closely akin to cloudy-swelling. In fact, the two processes appear to go hand in hand. The treatment for degeneration and desquamation of the renal cell has been outlined above.

You will see occasional references to the finding of malarial pigment in the urine. It seems to me that these statements lack confirmation by our leading workers. In case of question, better examine the blood.

Tuberculosis of the Urinary Tract

Repeatedly I have called attention to the fact that tuberculosis infections of the urinary tract are characterized, not by the presence of pus, but of truly mononuclear cells. By the time the urine is submitted for examination, it usually does happen that true pus will be found (polymorphonuclear cells); but it is very likely that these are the result of secondary infection, fermentations or other complications. Taken early, when the urine still is sterile except for an elusive tubercle bacillus now and then, the cells are mainly mononuclear. Occasionally a secondary infection does not occur for years, or, if so, does not approximate the intensity of the tuberculous reaction.

Some time ago I examined the urine in a case of old tuberculous prostate gland in which practically every cell bore a single nucleus; and there was no evidence of breaking down of these cells. These cells are of diagnostic importance, but call for no special treatment of themselves. It is thought that they come from fixed cell anlage, and not from the blood. They have been called "chronic-irritation cells." They must not be confused with renal (epithelial) cells or with true pus-cells; and discrimination sometimes is difficult.

True pus, or large numbers of degenerating polymorphonuclear cells, has indications of its own, in addition to those suggested by the reaction of the urine, mechanical factors, such as stone, and so on, and specific pathogenic bacteria. Nowadays the first thought is hexamethylenamine; but I am surprised at the small dosage prescribed by many physi-

cians. It has been repeatedly proven that in obstinate cases of colon cystitis and similar maladies nothing less than 15-grain doses given three or four times daily are likely to set free efficient amounts of formaldehyde into the urine. Furthermore, in the case of an alkaline urine it is quite a waste of the drug to continue it unless the reaction is first changed to acid.

Several years ago, I undertook to interest pharmaceutical houses in the merits of diacid sodium phosphate, the only rational urinary acidifier. They refused to be interested and one by one advised me that I was on the wrong track. A month or so ago, however, this substance was added to the "New and Nonofficial Remedies" (no credit to me). By and by we shall be able to secure this drug without ordering from chemical factories. If necessary, acidify the urine by means of this salt and then push hexamethylenamine; and the results will be beautiful in those very cases where this drug before seemed to be without effect.

Another remedy which seems of decided value in this condition is arbutin, the active principle of *uva ursi*. It is antiseptic but not powerfully antiseptic; yet somehow it seems to add "tone" to the entire genitourinary mucosa, thereby exercising a powerful restorative action—apparently by no other remedy.

Concerning red blood-cells, I shall have little to say. Their diagnostic significance would take many pages of this journal. Advice similar to that suggested under hemoglobin may be given here. We should like to treat the cause in every instance; but the cause cannot always be detected. We may be forced to call to our aid the "abdominal technician."

Next month: Indications Suggested By the Bacteriologic Analysis of the Urine.

Refraction for the General Practitioner

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois

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THE eye is a refracting instrument, the degree of curvature and the relative densities of the media of which are of such a dioptrism that in a normal eye in a state of rest parallel rays are exactly focused upon the retina. From every point of an object looked at, diverging rays of light proceed in all directions. One ray out of each of these groups strikes the surface of the eye perpendicularly and, so, passes through unchanged.

This is the "ray of direction" that passes through the nodal point. The rest of the rays in the group (or such of them as are intercepted by the eye) virtually are parallel by the time they reach the eye, and are so refracted by the eye at rest as to be reunited at the retina with their principal ray.

Thus, every point on the object is represented by a focal point on the retina, and the image of the object is clear, like the object itself.

As a matter of fact, as already pointed out, the refractive system of the eye is a compound one, made up of three media (viz., the aqueous humor, the vitreous humor, and the crystalline lens) and three surfaces (the cornea, the lens, and the vitreous humor); for optical purposes, however, it is regarded as a single refractive system, with a net dioptrism of about 45 D. and a refractive index of about 1.4.

Errors of Refraction

When the retina of the eye is situated exactly at the principal focal point of its dioptric system—that is, when, with the eye at rest,

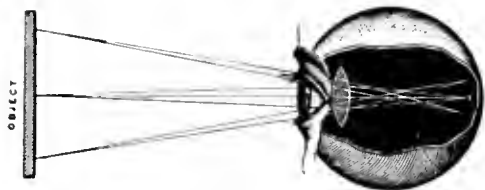


Fig. 1. Illustrating how axial rays and their divergents are focused on the retina in the normal eye at rest. The divergents have become parallel with the axials by the time they enter the eye.

parallel rays are focused on the retina—the refraction is normal, and then the eye is said to be emmetropic.

When the retina is not so situated, but is either within or beyond the principal focal point, the refraction is abnormal, and the eye is said to be ametropic.

When the retina is situated within the principal focal point, so that parallel rays are carried to a focus beyond the retina, the eye is said to be hypermetropic, or hyperopic. This is because the dioptric power of the eye is too great in comparison to the anterior-posterior diameter; or, contrariwise the eye is too short for its dioptric power.

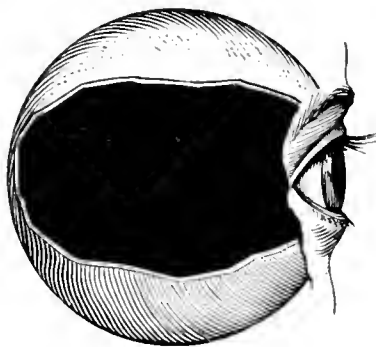


Fig. 2. The normal or emmetropic eye

When the retina is situated beyond the principal focal point, so that parallel rays are

brought to a focus in front of the retina, the eye is said to be myopic. This is because the dioptric power of the eye is too small for its anterior-posterior diameter; or, the eye is too long for its dioptric power.

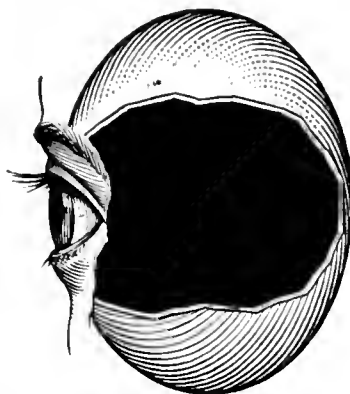


Fig. 3. The hyperopic, or short eye.

When the refracting surface of the eye is not the same in all of its meridians, so that all the rays do not focus at one point, the eye is said to be astigmatic.

When both eyes are ametropic, but the error in each is of a different character—for instance, one myopic and one hyperopic, or one astigmatic and the other spherically affected—the condition is called anisometropia. It is highly important, when testing

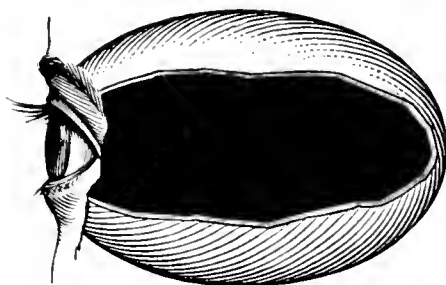


Fig. 4. The myopic or long eye.

refraction, to test each eye separately, excluding the other from vision meanwhile.

Principles of Correction

It is manifest from what has been said above that, in order to correct hyperopia, it is necessary to put before the eye a lens the curvature of which will hasten the focusing of the rays; in other words, the eye must be assisted by a lens of the same curvature as itself, namely, a convex, or plus, lens.

It is equally plain that, in order to correct myopia, we must apply a lens having a curva-

ture opposite to that of the eye, one that will delay the focusing of the rays, namely, a concave, or minus, lens.

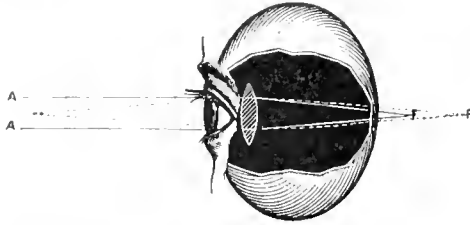


Fig. 5. Hypermetropic or short eye. Parallel rays of light, AA, from distance focusing behind retina at F. Dotted lines—rays of light from the object in focus still farther behind retina.

In astigmatism, we have a rather peculiar condition. The refractive sphere is, in this case, not a sphere, but is flattened in one of its meridians, like the earth. Being flattened in one meridian, it naturally is bulged in the meridian at right angles to it. Hence, we have an eye in which, in one meridian, there is a maximum curvature, and, in another meridian, at right angles to it, a minimum curvature. These two meridians are called the chief meridians. It is plain that these two meridians cannot possibly focus parallel rays of light at one and the same point, and therefore cannot give a clear image.

If one of the chief meridians is normal, that is, if it focus parallel rays upon the retina,

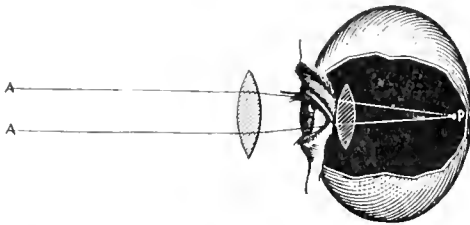


Fig. 6. Hypermetropic eye corrected by a convex lens, which hastens refraction of the rays, and thus brings the focal point forward. AA, rays. P, focal point.

the condition is called simple astigmatism, since only one meridian is out of focus. If the faulty meridian is too convex, so that it focuses in front of the retina, it is simple myopic astigmatism; if not convex enough, so that it focuses behind the retina, it is simple hyperopic astigmatism. If both chief meridians are out of focus, and both focus before the retina, it is compound myopic astigmatism; if both focus behind the retina, it is compound hyperopic astigmatism. If both chief meridians are faulty, one focusing before and the other behind the retina, it is then mixed astigmatism.

The eye normally is a trifle astigmatic, the vertical meridian (90 deg.) being slightly more

convex than the horizontal (180 deg.), but as long as this does not impair clear vision it is not regarded. In pathological astigmatism, the chief meridians generally follow this same order, namely, the vertical usually is the most convex, and we then say that the astigmatism is "with the rule." However, it frequently is "against the rule."

To correct astigmatism, we make use of a segment of a cylinder, convex or concave, as the case may be. According to the laws of refraction, those rays which enter the cylinder along the line of its axis strike the surface of the lens perpendicularly, and are not refracted. Only those which enter at right angles to the axis are refracted. A cylinder, therefore, hastens or delays (according as it is convex or



Fig. 7. Myopic or long eye. Parallel rays of light, AA, focused too soon at F. Dotted lines show object nearer the eye focused farther back.

concave) the focusing of the rays in one meridian only. The rule is, to correct the most convex (or least concave) of the two meridians up to a point where it is the same as the other. The remaining error, if there be any, is, then, clearly a spherical error, being the same in both meridians, and it is corrected by a sphere.

It will be seen that the only form of astigmatism that can be corrected with a single cylinder and no sphere is simple hyperopic astigmatism. Here, we simply correct, with a plus cylinder, the too convex meridian to the refraction of the other, and both are normal. Simple myopic astigmatism should not be thus simply corrected with a minus cylinder; but we should first make the least concave meridian (i. e., the normal one) equal to the

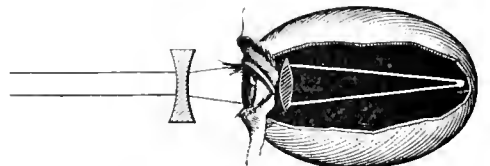


Fig. 8. Showing the myopic eye corrected by a concave lens, which delays refraction of the rays and therefore puts the focal point further back.

most concave (the faulty) one, by means of a convex cylinder, and then, having made them both concave alike, bring them both to normal with a concave sphere. In other

words, there is practically no place in correction for concave cylinders, but only in testing. Always we correct the most convex meridian with a plus cylinder to the curvature of the other meridian, and then make

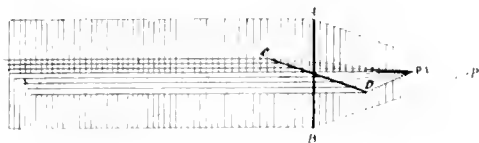


Fig. 9. Illustrates astigmatism, where the rays entering the eye in a vertical plane are focused on the retina; those entering in the horizontal plane are focused too soon.

both of them normal with a sphere of whatever curvature may be needed.

Presbyopia

There is a form of hyperopia, occurring in middle-aged and elderly persons, which depends upon the effect of age upon the crystalline lens, hardening it and robbing it of its elasticity and thus preventing the function of accommodation. The arbitrary point at which presbyopia is said to begin is when the near point recedes to 22 cm. This usually

occurs at about the age of 45 years, and increases about 1 D. for every five years thereafter. This will be seen to be indicated in the table of accommodative amplitudes given in a previous article. This fault is corrected,

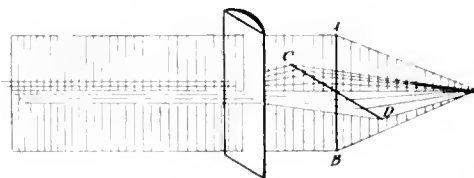


Fig. 10. Illustrates the correction of the foregoing, by a concave cylinder with its axis at right angles to the defective meridian. The rays entering the cylinder at right angles to its axis are refracted and their focal point carried back to coincide with that of the normal meridian.

of course, by means of convex lenses, the same as hyperopia.

We have now cleared the ground for a practical consideration of the technic for detecting, measuring, and correcting the various forms of refractive error. In my next installment I shall describe in detail the principles and technic of that most important procedure known as retinoscopy.

(To be continued.)

THE COUNTRY DOCTOR

BY WILLIAM F. KIRK

Day in, day out, night out, night in,
Where snow is thick and fees are thin,
He hustles with his cheery grin
To fight with ills.

The drives are long, the nights are cold,
He suffers hardships left untold,
To call upon some mother old
Across the hills.

Little he says about his pay;
Often he gives his skill away,
And though he's getting bent and gray
He has no wealth.

His life has been an endless trial,
His motto has been self-denial;
Freely he gives from every vial
For some one's health.

The gallant soldier goes away
While fife and drum and bugle play
Bravely to conquer or to slay—
That is his part.

The country doctor rides alone
Through rugged roads, o'er stick and stone,
To heal men, not to make them moan;
God bless his heart!

The Treatment of Cancer

Some Interesting Physical Methods

By G. BETTON MASSEY, M. D., Philadelphia, Pennsylvania

Radium

IT IS evident that the intense interest, that has been aroused of late in the possibilities attending the use of large quantities of radium in cancer, has been shared by well-informed medical readers of the newspapers as well as the general public.

The complete failure of the radium quantities hitherto employed in this country is well known to the initiated, but it was hoped that the larger quantities—costing in the neighborhood of one hundred thousand dollars—that were being used by a distinguished surgeon, so well known for his skill with the knife, would give real results in definite cures. For it is now known that only about five percent of the energy of radium can properly be used, namely, the gamma rays; it being essential that the alpha particles and beta rays be excluded by heavy screens of lead or gold. It was but natural, therefore, that those who have been disappointed by the results from a few thousand dollars' worth should regard with interest the possibilities that might attend the employment of really powerful radiations of gamma rays from large quantities of radium, properly screened.

It is yet too soon to reach a final judgment in this matter, in spite of disappointing reports and the statement of a physician who had the use of the whole output of a manufacturer of radium, that two out of five of his patients appeared to have had their lives shortened by the application of large quantities.

One definite fact has been developed, nevertheless, in connection with large dosage in carcinomas and sarcomas, not unlike what had been noted in similar growths under powerful Roentgen radiation. This is the deleterious effect on the patient of the absorption of decomposition-products of the broken-down tumor. Some deaths, at least, have been attributed to this circumstance. Whether cures of extensive carcinomas and sarcomas will result, can only be determined later, after the passage of sufficient time.

It is true that a number of small skin epitheliomas have been reported as cured by means of radium, some of them remaining so for periods as long as six and eight years. This is interesting, but of no practical im-

portance, since many of them would have been cured by Roentgen rays, and practically all could have been cured by a few-minutes' application of the ionic method and at a cost of but a few cents for current and electrodes.

Roentgen Rays

Many disappointments have weaned some physicians from their earlier enthusiasm for Roentgen rays in cancer. It should be realized, however, that the technic of this method may be capable of great improvement. Our tubes, targets, and so on, are yet but distant cousins of that classical college toy, the Crookes tube, and may not present the last word on the subject. We already have new methods of intensification in thermoradiotherapy, and any day we may have more effective tubes. In final analysis, the Roentgen ray and the gamma ray of radium are said to be identical.

But, even with ideal improvements, roentgenization should not be employed in cases that present the danger of daughter tumors being implanted at any moment by metastasis to internal organs if a quick and effectual method of eradication is available. Delay of only a day may change a curable case into one that is incurable, for it takes but a few seconds for the internal implantation of a graft. The slow roentgenization of this type of growth is a serious error of judgment. Its true place today is in certain widespread skin epitheliomas, or in cases that have been a failure under quicker methods.

Massive Ionic Destruction

When a growth is still local (and many large carcinomas and sarcomas remain local for months or years, or with but the second step of dissemination: a local involvement of accessible glands), it should be removed at once; and the writer believes that a growing tendency to regard cancer as parasitic and to take operative precautions accordingly, will attract greater attention to the method of immediate ionic destruction that he has used with good results for some twenty years.

In this ionic method, the infected cells are destroyed in a few minutes by driving into them electrochemically the ions of zinc, the latter uniting with the protoplasm and saline

constituents of the cells and immediately devitalizing them.

The older technic of this method, which has been applied to some hundreds of cases since 1893, is known as the unipolar method, or one in which but one pole, the positive, is applied within the growth, the negative being a large moist pad on a distant part of the body. This technic is still applicable to some large growths in which insufficient tissue is found properly to place the negative electrode, and is particularly applicable to small epitheliomas.

Details of the Method

The essential armamentarium consists of a source of direct, or galvanic, current—either the street-mains, a dynamo, or an ordinary galvanic battery; a meter; the means of controlling the current, so that it may be turned on and off without shock; an indifferent pad of sufficient size for the negative pole; and, for the active electrodes, pointed instruments made of zinc plate. For the smaller growths, these zinc-needle electrodes may be cut from sheet zinc (not galvanized iron), such as is used by stove-dealers, with a pair of surgical scissors or tinnerns' shears. For larger growths, a heavier zinc plate is necessary, particularly for the extreme length of seven inches at times employed. These electrodes are attached to fine copper wires that connect them with the positive binding-post of the apparatus.

With the patient lying on the indifferent pad, beneath which there is a metal plate connected with the negative binding-post, one or more active electrodes are inserted into the growth near the edge and the current gradually turned on; the electrodes usually having been amalgamated with mercury immediately before insertion in the case of large growths. A few minutes after an adequate current (from 10 to 200 milliamperes per electrode) has been flowing the evidences of ionization of the electrodes appear as a whitish discoloration of parts of the growth in contact with the electrode. This whitening of the growth is due to the union of the ions of zinc and mercury with the malignant cells. Additional electrodes are inserted until the whole circumference is included, and in about thirty minutes the whole of the growth and its edges are thus whitened, softened, and devitalized. The sterile slough is allowed to separate under natural conditions, leaving a healthy wound, which heals promptly under dressings of diluted zinc-oxide ointment.

The new technic differs from the older only in the placement of the indifferent, negative, pole in the center of the growth, the active electrodes being inserted, as before, around the edges and beneath, thus being bipolar. It increases the effectiveness of the method in the large growths, for the circuit is entirely local and much greater current-strengths may be used reducing the time under anesthesia to twenty-five or thirty minutes.

General anesthesia has of late been replaced by local anesthesia, as much as 1000 milliamperes having readily been borne under endermic infiltration with quinine and urea hydrochloride after the patient had been given a hypodermic injection of a full strength H-M-C tablet. While the writer repeats the assertion that the unipolar method may be used in the office for the destruction of small skin epitheliomas, under local anesthesia, by any well-equipped office practitioner, he has heard of attempts to use the method in locations too sensitive to permit of effective results. This could have been remedied by the preliminary administration of a cerebral sedative such as the hyoscine-morphine-cactoid combination.

A combination of these two methods of Anesthesia will permit the ions to be driven beyond the edges of the growth into normal tissue, with little or no pain and in one sitting; and nothing short of this degree of penetration can be expected to eradicate the growth.

The statistics of this method, as employed at the Sanitarium, include 300 cases of the several forms of malignant growths, a majority of which were desperately inoperable by ordinary methods, with 129 cures, as attested by systematic inquiries into the present condition of patients. The periods of time elapsing since cure varies from seventeen years to one year. Twenty two percent of the carcinomas treated were cured, 35 percent of the sarcomas, and 87 percent of the epitheliomas. Of the 234 patients under treatment since 1904, 9, or 3.84 percent, died as a result of or soon after operation.

The cases on which these figures are based are further divisible into operable cases, 93, and those ordinarily classed as inoperable 207, showing a large preponderance of the latter.

No Toxin Absorption Results

The dangers attending major ionic operations in grave cases are almost entirely due to secondary hemorrhage, the operation itself being bloodless. No evidence of absorption of toxins has been noticed—the serious danger

attending large radium-killed growths, as already stated. An essential feature of the ionic process is the sealing of the lymphatics and small veins at the line of demarcation, thus walling off the dead tissue, which virtually is outside the body at the completion of the application.

In conclusion, while freely admitting the value of the knife and of the radiation methods in properly selected cases of cancer, the writer urges the importance of the ionic method in cases promising but poor results from either the knife or radiation, since in a measure it combines certain features of both: the quick eradication by the knife and the

germ-killing qualities that must be the essential features of radiation. Moreover, although the major operation of ionic destruction demands a training not unlike that of the surgeon, the minor operation places in the hands of competent general practitioners a means of destroying small incipient growths that would become dangerous to the lives of the patients if the latter followed the usual routine of waiting for the growth to attain dimensions warranting the services of a distant surgeon; and the method in such hands may thus become a most potent means of lessening the progress of this terrible scourge of mankind.

THE CONQUEROR

BY THOMAS G. ATKINSON, M. D.

A boy walked forth 'neath the June's blue dome,
With a parched and feverous heart;
He longed to break from his quiet home,
And bear in the world his part.
For his soul was elate with a purpose great,
And his courage was strong and true,
And it seemed so hard, so hard, to wait
When the work was there to do.
In the hot forefront of the battle of life
He had sworn a crown to win—
Oh, when would the trumpet sound for strife,
And the fierce, wild work begin?

A man was pacing his room by night,
A warrior, stern and strong,
Who had dared to fight for the down-trod right
Against the purpled wrong.
But the ancient lie sat throned high,
And the truth was overborne,
And the only meed his valor could buy
Was hunger and hate and scorn.
And the noble rage his soul had stirred
No longer would be dumb,
And he cried, in the anguish of hope deferred,
"Oh, when will the triumph come?"

In the last fierce flush of the western skies,
In the glare of the dying day,
An old man lies, with filmy eyes,
Breathing his soul away.
"Ah, blusterer Death, you may shake my breath,
But you cannot shake God's will;
My body returns to its earth," he saith,
"His work will onward still."
A green bay-bough for thy world-worn brow,
Calm heart, and sad, and tried;
In death thou liest triumphant now
O'er self and all beside.

What Others are Doing

URIC ACID DECOMPOSED BY RADIUM EMANATION

Mezernicky has verified (*Oester. Chem.-Ztg.*; through *Pharm. Zentralh.*) his claim that radium emanation destroys uric acid; in twelve days, he found, 30 mg. of sodium urate was thus completely changed. Purin bases are influenced in a like manner.

HYPERLEUKOCYTOSIS

In a report to the International Tuberculosis Congress held in Rome, 1912, Julius Citron (*Deut. Med. Woch.*, 1912, No. 20, p. 937), mentions the fact that induction of increased leukocytosis has been employed by various clinicians for the treatment of certain local tuberculous affections and also as an adjunct in the treatment of pulmonary tuberculosis. By this means, certain favorable results have been obtained, it is claimed. Citron refers particularly to Landerer's cinnamic acid (hetol) and to the injection of nucleinic acid, which latter has recently been proposed by various writers.

A PRACTICAL TREATMENT FOR BOILS

"Boldly to incise a furuncle, or common boil, in the making, is certainly to court a train of very disastrous consequences." So remarks Donald Macfarlan in *The Interstate Medical Journal* (for November, 1913, p. 1064).

During this stage, the best treatment, in his opinion, is, to apply an ample and well-warmed bread-and-milk poultice to which a small amount of yeast has been added. This poultice should not be made too warm, since this would kill the yeast. This application, thanks to the presence of the yeast, sharply limits the area of infiltration and brings about the desired pointing. Poultices should be changed thrice daily and continued for several days. In the meantime, the general health should be well cared for.

When the area of abscess formation is well delimited, a crucial incision should be made,

with strokes meeting at the core of the boil. The latter is removed and the contents are thoroughly expressed. After this, the wound is swabbed and syringed out with a potassium and mercuric iodide solution, 1:2000 in strength. This is easily obtained by dissolving the red iodide of mercury in an aqueous solution of potassium iodide. According to Macfarlan, this is more highly antiseptic and less corrosive than the bichloride of mercury. The solution facilitates healing by first intention. Any subsequent dressings of the boil cavity should be applied on moistened compresses. Do not bandage too tightly.

With this excellent treatment of Dr. Macfarlan's, plus the internal administration of calcium sulphide during the formative stage, and the use of bacterins both to hasten recovery and prevent the occurrence of "crops," we should think this method of treatment satisfactory.

GUAIACOL IN PULMONARY TUBERCULOSIS

Some years ago guaiacol found considerable use in the treatment of pulmonary tuberculosis. For some reason, it has fallen into disrepute, perhaps because, as asserted by G. M. Mayberry (*Brit. Med. Jour.*, Jan., 1914, p. 84), it is not given in large-enough doses, continued for a sufficiently long time, or administered regularly.

Mayberry has employed this drug in a large number of cases, mainly of the bronchial type, and has found that, by increasing his dosage up to 12 minims three times a day and prolonging the period of administration to four months or more, highly satisfactory results are obtained. He always gives it before food, and when so administered has not observed any disturbances of digestion. He reports five cases, in all of which there followed decided gain in weight and improvement in the symptoms.

He administers the drug in the form of a mixture, increasing the dose of guaiacol by 2 minims each week, until a maximum of 12

and 15 is given three times a day. The formula employed is as follows:

Guaiaicol.....	dr. 1
Alcohol.....	oz. 1
Syrup of lemon.....	oz. 1
Spirit of chloroform.....	drs. 2
Water, enough to make.....	ozs. 6

The dose of this mixture is 1-2 ounce (a tablespoonful) three times a day.

A SIMPLE TREATMENT FOR ANAL FISSURE

M. Katzenstein, of Berlin, confidently recommends (*Ther. d. Gegenw.*, Dec., 1913) his rapid nonoperative treatment of anal fissure, as employed by him for some time. He employs a mixture of extract of belladonna, 10 parts; cocaine hydrochloride, 10 parts; ichthyol, 80 parts. The underlying idea is this: the atropine overcomes the irritability of the exposed nerve-endings; the cocaine allays the pain, so that the spastic conditions are relieved; and then the ichthyol favors the healing-process.

A pledget of cotton is rolled into a cord of the diameter of a thick knitting-needle; then, having gently warmed and shaken up the medicament, this cord is saturated with it and then introduced into the anus, placing it at the opposite side of the commissure from where the lesion is located. The medicament gradually will spread to the sore, while direct application would be too painful. This is renewed daily until a cure is effected; but sometimes even the first application ensures marked relief. To obviate occurrence of fresh fissures, it is advised to pass into the sphincter, every day for a while, a good-sized greased bougie (or, probably better, a small rectal dilator).

THIOCOL - GLYCERIN INJECTION IN TUBERCULOUS JOINTS

Radical incision for tuberculous joint disease is not an ideal method of treatment and should be resorted to only when other methods fail, in the opinion of Jacob Heckmann, who, in *The Postgraduate* (Dec., 1913), advises resorting to the injection method; combined, of course, with the orthopedic expedients, such as immobilization, fixation, extension, with plaster-paris casts and various ingenious apparatus. The remedies most frequently used for injection are iodoform-glycerin and formalin-glycerin, the latter brought out by Murphy, of Chicago.

However, the recognized value of creosote in tuberculosis led Doctor Heckmann to the

adoption of thiocol (potassium-guaiaicol-sulphonate) for this purpose. This is a colorless and odorless powder, readily soluble in water and a little less so in glycerin. To make a 10-percent solution, 45 grains of thiocol is added to 1 dram of glycerin and 1 ounce of water and the mixture heated until a clear solution results.

Guaiaicol, which is soluble in glycerin alone, should also be valuable, and Heckmann purposes to use this in future cases. He now uses a 10- to 12-percent solution of the thiocol, made as described, although both weaker and stronger solutions have been employed with good success. About 1 or 2 drams are injected into the joint every eight to fourteen days, with immobilization with a plaster-paris cast. In smaller joints, the cast is opened at every injection; in larger ones, a fenestrum is made for future injections, this being filled with gauze or cotton and bandaged during the interval.

The pain following the injection usually stops after a few minutes, and the after-pain and local irritation is much less severe than with the iodoform and formalin mixtures. If there is pus in the joint, it is aspirated before introducing the thiocol-glycerin. Doctor Heckmann reports five cases treated in this manner.

THE BULGARIAN BACILLUS IN INFANTILE DIARRHEA

Another physician who has been using the Bulgarian bacillus in tablet form in the treatment of infantile gastroenteritis is Louis H. Schwartz, who reports in *The Medical Record* (Jan. 24, 1914, p. 159) 55 cases of infantile diarrhea treated during July and August last, and in which these tablets were used. Inasmuch as the home conditions of these infants were for the most part wretched, the parents being poor, ignorant, and superstitious the results obtained really were remarkable.

The babies ranged in age from a few weeks to two years. Of these, 16 were breast-fed, 32 were bottle-fed, and 7 were on breast and bottle combined; 47 were in their first year of life. In 33, there was diarrhea, but no vomiting, and in 20 there was both vomiting and diarrhea. The stools generally were green, watery or curdy, foul, slimy, and in a few cases blood-stained. There was fever in 20 cases, the temperature in some cases running as high as 105 degrees. Some of the patients received no treatment other than the ferment tablets, but 17 were given an initial purge of calomel and castor-oil, and were kept

on barley-water alone. However, very few of the infants were actually entirely denied the use of milk. Bismuth in small doses was administered along with the Bulgarian bacillus tablets in 13 cases.

The results obtained were as follows: There were no deaths. Gain in weight was recorded in 43 of the children; 2 lost weight; 3 gained and then lost later; and in 7 there was no change of weight. In nearly every case, the temperature came down to normal within one to three days. Within two or three days after the Bulgarian-bacillus tablets were used, the stools became yellowish or brown, well formed, and free from mucus and blood. The number of stools sometimes decreased, but occasionally remained unchanged. In the latter cases, bismuth subnitrate in tablet form was given in addition to the lactic-acid tablets.

Doctor Schwartz believes that the administration of Bulgarian-bacillus tablets is a distinct advance in the therapeutics of the diarrheas of infants.

THE INTRAVENOUS TREATMENT OF RHEUMATISM

Owing to the gastric irritation caused by sodium salicylate, a number of physicians have suggested the administration of this drug by the intravenous route. The feasibility of this method of giving it was demonstrated by Felix Mendel as long ago as 1904. In two recent papers, one by Lewis A. Conner (*Med. Record*, Feb. 21, 1914, p. 323), the other by Paul M. Patterson (*N. Y. Med. Jour.*, Nov. 1, 1913, p. 870), this parenteral mode of giving the drug is revived. Mendel combined with the sodium salicylate a small amount of caffeine; Conner, however, now gives the salicylate alone, the dose ordinarily administered being from 15 to 20 grains, injected at 8- or 12-hour intervals, and continuing over a period of from three to six days.

According to Connor, the secret of giving the drug successfully, so that there may be no risk of local thrombosis, consists in employing a very small hypodermic needle and in being careful that it has a fine, sharp point. It is also essential that the solution employed be fresh and made from a chemically pure crystalline sodium salicylate. Before administering, the skin over the flexed surface of the elbow is sterilized by painting with tincture of iodine, then, filling a carefully sterilized 10 Cc. all-glass syringe with the solution, each Cc. of which contains 3 grains of sodium salicylate, the injection is made.

The therapeutic effects, of course, are those of sodium salicylate, but the relief of pain secured is more prompt and more permanent than when the drug is administered by the mouth; in some cases, improvement beginning almost immediately.

The principal advantage of this mode of administration is, that there is no troublesome gastric intolerance to contend with, a complication which often makes it impossible to administer the salicylates in sufficient quantities. Also, Connor thinks the method should be tried in patients who show little or no response to the drug, as usually given. Furthermore, the injections seem to have distinct advantages when there are threatening heart complications, and in the treatment of severe rheumatic affections of the eye, because of the more rapid action as well as accurate dosage.

Patterson combines with the sodium salicylate an equal quantity of guaiacol and glycerin, all three being dissolved in distilled water, as in the accompanying formula:

Sodium salicylate,
Guaiacol,
Glycerin, of each. Gm. 41.29
Distilled water, enough to make CC. 2000

Of this mixture, 75 Cc. is used, together with 125 Cc. of normal saline solution at a temperature of 100° F. This quantity will contain approximately 23 grains of sodium salicylate. The mixture is allowed to run into the vein slowly, taking from five to ten minutes for completing the infusion.

Occasionally patients complain of dizziness or sleepiness during the administration of this solution, and in one case there was slight delirium just before the full amount had been introduced; but this symptom passed away in ten minutes. Doctor Patterson declares that the guaiacol prevents the vertigo, tinnitus aurium and embarrassed respiration which sometimes occurs when sodium salicylate is used alone; also, the quantity of hemoglobin is actually increased by the use of the guaiacol.

Within thirty minutes to one hour after the injection of the guaiacol-salicylate solution the patient begins to perspire profusely, and this symptom lasts for four to ten hours. The inflammation, swelling and pain all disappear rapidly, a slight stiffness of the joint involved remaining, which usually disappears within from one to three days.

This intravenous method of treatment has been employed by Patterson in the Metropolitan Hospital on Blackwell's Island. He says that the patients treated from the onset of the attack left the hospital in from six to

twelve days, apparently cured. In not a single instance was there failure to secure relief. Fingers which were stiffened become mobile the next day, and within twenty-four hours patients often are asking how soon they can be allowed to be up and about. Patterson believes that this method of treatment is the best we have, not excluding even the vaccines. For prompt relief, he knows of nothing that will equal it.

CONCENTRATED ANTITOXINS VERSUS DILUTE SERUMS

Most of the diphtheria and tetanus antitoxin now used by physicians in this country consists of carefully refined and concentrated pseudo-globulin solutions, most of the protein content of the horse-serum being removed by a process of "salting out" and separation, the pseudo-globulin that carries the required antitoxin being finally redissolved in salt solution. In this way, the resultant antitoxin of commerce can be made to contain 2000 to 3000 units of diphtheria antitoxin per Cc.; with a protein concentration of 18 to 20 percent, while the original immunized horse-serum contained only from 400 to 600 units of antitoxin per Cc., besides a protein content of 8 or 9 percent.

The question has occasionally been raised, as to whether the old-style serum, with its low percentage of protein, might not be absorbed more rapidly than the newer antitoxin with its larger percentage of protein. To settle this question, Park, Famulener, and Banzhaf, of the Research Laboratories of the Department of Health of New York City, have conducted an elaborate series of experiments, both upon the lower animals and upon man; and the result of this work has been published in the March number of *The Journal of Infectious Diseases*.

The first tests, we learn, were made upon goats, nine animals being selected. A part of these goats were given a concentrated (30-percent) globulin solution, others receiving a solution containing only 7 1-2 percent of total solids. Each injection represented 10,000 units of diphtheria antitoxin. Samples of blood were taken from each animal injected, then the antitoxic value of each sample was determined for periods of 18, 36, 48, 72, and 96 hours.

The result of these tests showed but a relatively slight difference between the degree of absorption of the concentrated and the dilute antitoxins. However, during the first period (eighteen hours), the dilute solutions

were absorbed somewhat more completely, there being a difference of approximately 15 percent in their favor. But, this difference gradually diminished, so that in thirty-six hours it amounted to only 5 1-2 percent, and in forty-eight hours to 2.7 percent.

A series of tests was also carried out upon normal men, part of whom received an 18-percent protein solution and part a 9-percent solution, 10,000 units of antitoxin being given at a dose for each.

In these human experiments, it was found that, when the weight of the subject was considered, the degree of absorption was greater in the men who received the concentrated solution than when the dilute solution was administered; thus, the result in this instance was opposite to that obtained with the goats. Careful comparison of each case, however, showed that the rate and degree of absorption were largely independent of the percentage of protein present within the limits used, but rather were dependent upon the individual characteristics of the individual receiving the injection.

The final conclusion of the authors therefore is that the degree of protein concentration as usually employed in the refined and concentrated diphtheria-antitoxin globulin preparation has little or no effect in retarding the absorption of the antitoxin from the tissues. The removal of water, therefore, if not pushed too far, is a justifiable means of lessening the quantity of fluid to be injected. In other words, the report is favorable to the employment of the concentrated antitoxins, which, as now marketed, seem to present very decided advantages over the more bulky serums, with absolutely no counterbalancing disadvantage.

PROPHYLACTIC TYPHOID VACCINATION IN THE FRENCH ARMY

The record of another interesting demonstration of the prophylactic value of anti-typhoid vaccination appears in the *Province Medicale* (Mar. 14, p. 115), which gives a sketch of the experience of Major Lajoanio, of the seventh battalion of chasseurs of the French army. Lajoanio was in charge of the ninth Alpine military group, consisting of a battalion of chasseurs and two batteries of mounted artillery, who were sent to Morocco, in 1912, to take part in that campaign. Immediately upon receipt of orders, vaccination of these men against typhoid fever was begun at the Val-de-Grâce military hospital,

the work being completed during various stages of the journey to their post in El Boroudh.

In all, 1260 men were vaccinated. In spite of the fact that this operation was completed in a hostile country, when the men were fatigued and many of them were attacked, soon after their arrival, by malaria and dysentery, no serious results followed. Not a man was sent to the hospital or compelled to resort to the ambulance service; only 20 of the men were temporarily excused from service.

The soldiers were at once thrown under hard active-service conditions, compelled to take long marches day and night during the three months' campaign, much of the time in camps where the soil and drinking-water were known to be infected with the germs of typhoid fever of a virulent type. The country was infested with flies, and in every respect exceedingly unhealthy.

To give an idea of the conditions, the writer states that in 1912, among the unvaccinated soldiers, there occurred 169 cases of typhoid fever in every thousand. In spite of the unfavorable conditions surrounding the 1260 men in this battalion, after four months' service in Morocco there occurred only two cases of typhoid fever, and these two men had not been vaccinated because they had previously suffered from the disease. Not one of the vaccinated men was attacked.

As illustrating the protective power of this method of treatment, the writer cites the case of an artillery officer who had received the treatment. Shortly after reaching Morocco, his wife, the grandmother, and three children joined him in Casablanca. Of these, only the mother had been immunized. The grandmother had not been vaccinated, and she, shortly after, contracted typhoid fever. One of the children also took the disease and died. The other two were vaccinated immediately, and escaped.

THE TREATMENT OF FRESH WOUNDS

The modern method of dressing a wound is beautifully epitomized in a paper by Arthur E. Hoag, giving the method employed in the surgical clinic of Cornell University Medical School, New York City (see *N. Y. Med. Jour.*, Jan. 17, p. 116).

For convenience, Hoag divides fresh wounds into four classes; namely: incised wounds, lacerated wounds, punctured wounds, and gunshot wounds. In all of these, the first

treatment is, to paint the surrounding skin with tincture of iodine (7 percent), after which the part is shaved dry, since the tincture will not act in the presence of water. Then the iodine is again applied, both in the wound and around it.

When the wound is lacerated, all badly damaged tissues are cut away, since they will slough and cause delay in healing if allowed to remain. If the wound is an incised one, all bleeding points are tied, then any foreign material is sponged out with dry sterile bits of gauze; then any nerves or tendons that have been severed should be sutured together, and, finally, the wound closed without drainage. A dry sterile dressing is next applied. No wet dressing is ever used in this class, with the one exception of alcohol. For suture material, Doctor Hoag prefers sterile horse-hair or subcutaneous catgut on sutures the face, since these leave little scarring.

Lacerated wounds are treated in exactly the same way, as a rule no drainage being required. Drainage may be instituted at any time if there seems to be any infection; the best material is rubber dam, rubber tissue or rubber tubing.

If the wound is a punctured one, it should, of course, be explored to the bottom, after which tincture iodine should be applied in and around the wound, as already directed, and a drain of rubber dam inserted, to keep the wound edges apart. An alcohol dressing is then applied.

Gunshot wounds should never be probed to find out the location of the bullet, since by probing we further damage the tissues and may carry infection into what usually is a sterile wound. Of course, if there is a bleeding vessel, it must be found and tied, or, if a nerve is divided, that must be sutured.

In both punctured wounds and gunshot wounds, Doctor Hoag advises the use of tetanus antitoxin as a matter of routine. As examples of cases in which it is wise to give the antitoxin invariably, he mentions Fourth of July wounds and punctured wounds received around barns or presumptively soiled with street dirt.

THE TREATMENT OF WOUND INFECTIONS

The treatment of wound infections depends, according to Hoag (*N. Y. Med. Jour.*, Jan. 17, p. 117) upon the degree of the infectious process. When there is only a slight exudate, without necrosis, the best treatment is rest, elevation, and dressings with hot alcohol

solutions (50 percent) or with aluminum-acetate or normal-salt solution. He objects to the use of ichthyol and other ointments, and also to bichloride of mercury.

When there is a large amount of exudate and a tendency to necrosis, Doctor Hoag advises an incision, taking in the major portion of the infected area and carried deep enough to reach the seat of the trouble; then carbolic acid, full strength, is swabbed into the wound, not for its antiseptic power, but to hasten the breaking down of the tissues. The phenol application should immediately be followed by one of 95-percent alcohol. The wound is then packed with gauze saturated with Chlumsky's solution (camphor, 60 parts; phenol, 30 parts; alcohol, 10 parts). Over all, he applies a wet dressing consisting of 50-percent alcohol, after which hot-water-bottles may be applied to the parts, to hasten the breaking down of the infected area. As soon as necrosis has occurred and pus formed, the gauze should be removed and treatment instituted as described for the third class of infections.

In this third class there is marked necrosis. If an extremity is affected, then a tourniquet should be applied, to render the part bloodless; then an incision should be carried down through the different layers, care being taken not to open the tendon-sheaths, unless they are involved. This incision should be long enough to reach all the infected area. The pus is now evacuated, the infected area sponged out dry with sterile gauze and Durante's antiseptic solution put into the pus cavity. This solution consists of iodine, 1 part; potassium iodide, 10 parts; guaiacol, 5 parts; glycerin, to make 100 parts.

Of vital importance in these cases is drainage. The material employed should consist of something which will not dam back the pus and will permit of free exit of broken down and infected tissue. Hoag prefers rubber tubing, rubber dam or rubber tissue.

Under no condition should gauze drains be used in these cases, since this material, if applied wet, soon becomes dry or filled with purulent material and adheres to the wound edges and forms a plug, which dams back the pus and keeps it in contact with the wound. Rubber drains will not adhere to the wound edges, and will permit of free drainage. These should be covered with a wet dressing that will take up the infectious material as it exudes from the wound. The best solutions for these wet dressings are: 50-percent alcohol, 1 percent aluminum

acetate, 1-percent sodium citrate, and normal-salt solution.

FLEAS AND THE PLAGUE IN THE BIBLE

When Moses, for the second time, promulgated the laws for the guidance of Israel, he said, should they disobey after possessing the promised land of the heathen Canaanites (Deut. xxviii, 27): "The Lord will smite thee with the botch of Egypt, and with the emerods, and with the scab, and with the itch, whereof thou canst be healed." Then, after the Israelites had established themselves but wickedness became rampant, they lost the protecting ark of the covenant to the Philistines, a people steeped in vices and lecherous practices; but who also had achieved to the Assyrian civilization.

Now, when the Philistines deposited the sacred ark in their temple of Dagon, we are told in I Samuel, v, 6, that "the Lord . . . smote them with emerods," and destroyed those dealing with the ark. In their terror, the Philistines now carried the ark to Gath; whereupon (I Sam. v, 9) the Lord "smote the men of the city . . . and they had emerods in their secret parts." Becoming panic-stricken, the ark at last was returned to the Israelites, because sickness and death followed wherever it rested, and (I Sam. v, 12) "the men that died not were smitten with emerods."

For ten months the ark was among the Philistines, housed in various cities; then, when it was resolved to get rid of this death-dealing prize of war, the priests counseled that they send along with it a "trespass offering" for the god whom they had offended, and advised (I Sam. vi, 4) that this should consist in five golden mice and five golden emerods, saying (I Sam. vi, 5): "Wherefore ye shall make images of your emerods, and images of your mice that mar the land . . . peradventure he will lighten his hand from off you." The ark was then restored at Bethshemesh.

However, the trouble did not end there; for (I Sam. vi, 19) the Lord "smote the men of Bethshemesh, because they had looked into the ark of the Lord, even he smote of the people fifty thousand and three score and ten men."

The foregoing citations from ancient history acquire a certain amount of interest in the light of the recent discoveries about the role played by insects and other creatures of the animal world in the dissemination of diseases of various kind; and the passages

cited from the Old Testament are presented here because of a theory promulgated not long ago by Sir Havelock Charles, as expressed in a British contemporary. It will be observed that the translators have taken over the appellation emerod, the meaning of which had remained a puzzle to Bible students.

Now, however, Sir Havelock Charles comes forward and suggests the ingenious—and withall plausible—idea that emerods signifies fleas. Then he goes on and speculates something like this:

A plague was ravishing the land of the Philistines, and, from the account, we may safely assume that the wise men had learned to associate it with rats and fleas, exactly as we in this late day have discovered for the bubonic plague. The temple of Dagon, like all other habitations (of those countries), was infested with mice and rats (which often are not distinguished) harboring plague-bearing fleas. The ark itself was covered with badger-skin (Exod. xxxvii, 19), consequently would serve to attract and hide numbers of infectious fleas.

Thus, as the ark was carried from city to city, the plague broke out there, culminating in a terrific epidemic when the Jews opened and examined the coffer; this, however, finally dying out when the casket had been put back into the holy of holies, where it stood in seclusion, unmolested. It may, further, be surmised that possibly this plague was new among the Israelites, and, hence, the ravage was more deadly than among the comparatively immunized peoples native to the soil.

AMEBIC DYSENTERY IN NEW YORK

There occur many cases of amebic dysentery in his section of the country, Jerome Wagner declares in *The Medical Record* (Jan. 31, 1914, p. 190), but altogether too many of them are not diagnosed as such. He gives a report of 6 cases which he personally has seen and treated; and he assures his readers that in the New York Polyclinic Hospital they have seen more than 100 cases in the last twelve years. In all of these the diagnosis was made only after the finding of the entamoeba histolytica in the stools.

Doctor Wagner describes the reaction to emetine in these cases as being "marvelous," both as regards results and as to the rapidity of action. The average number of stools in the cases coming under his observation before treatment was instituted was from 12 to 15 a day. On an average, after one and two

thirds days after the initial injection the number of stools dropped to a single one or, at the most, to 2 in twenty-four hours. At the end of a series of 7 injections, the stools numbered but one a day, and have so continued until the present time. In 2 of the cases seen, blood and mucus disappeared within twenty-four hours after the first treatment, while in the third case the stools were free from blood and mucus on the third day after the first dose of emetine hydrochloride. Three days after treatment was begun, the stools usually became normal.

In no case were amebas found after the first twenty-four hours. On an average, it took two days to relieve the patients of tenesmus, and in several cases the patient felt much better after the first injection, there also being decided improvement in the appearance of the rectal mucosa. There was a corresponding improvement in all the symptoms and signs of the disease, including increase of weight, better appetite and better tolerance for food. In no case did the patient vomit following the hypodermic injection of emetine. In 2 cases there were recurrences, but the symptoms were promptly relieved by emetine treatment. Doctor Wagner considers that intermittent after-treatment with emetine probably is necessary.

LAMBLIA DYSENTERY, AND ITS CURE WITH EMETINE

An interesting article on dysentery and its treatment with emetine is contributed to a late issue of the *Muenchener Medizinische Wochenschrift* (No. 5, p. 241) by Martin Mayer, who, in the Institute for Tropical Diseases at Hamburg, effected a purely clinical cure, of what he affirms to be a case of lamblia dysentery, by means of one hypodermic dose of emetine hydrochloride.

The patient, a ship's officer of 22 years, had been sick on nearly the entire trip coming from Bombay, passing as many as 12 to 24 liquid stools a day (often mingled with bloody mucus), and confining himself to soups for food. Mayer found that, while there was much tenesmus, the patient felt little pain, except for some gastric cramping; his abdomen was not tympanitic; the descending colon could be traced as a rope of finger-thickness; his temperature stood at 37.2° C. (99° F.).

The microscope revealed the presence in the stools of a multitude of lamblia intestinalis both in the vegetative stage and encysted; also numerous open-spiraled spirochetes.

Amebas were absent. This finding was verified by another expert.

Lamblia intestinalis (cercomonas intestinalis, megastoma entericum) is a flagellate protozoan found in the healthy duodenum and jejunum; it also is encountered in the vagina and lung. This parasite has been suspected of sometimes being a pathogenetic factor in enteric disorders of a dysenteric nature, but most writers describe it as harmless. Since such authorities as Grassi and Schewiakoff hold the former view, and these are supported by, e.g., Botine, v. Prowazek (1908), Fairise, and Jannin (1913), Mayer considered the present an excellent opportunity for determining whether emetine is effective in other forms of protozoic dysentery or is elective solely in the amebic variety.

The outcome of the experiment was as striking a success as generally is seen in the case of amebic dysentery. After a second microscopical test, with the same finding, the patient was given (Nov. 17) a hypodermic injection of emetine of 0.05 Gram (gr. 3-4). The account reads that the patient had 8 mucosanguinolent liquid passages "since midnight," so that presumably the drug was administered early in the forenoon. And then we read that he had only one more passage of the same nature, and this one and one-half hours after the injection.

After this sudden improvement, white bread was added to his liquid diet. The next day the patient felt well. Not until the day following (Nov. 19) did he have another passage, and this was firm and but slightly coated with bloody mucus. The latter contained large numbers of dead and disintegrating lamblia cysts, besides a very few spirochetes. The day after this, eggs were added to the diet; but the patient had no passage for again two days (Nov. 21). These feces were hard, and free from lambliae. The temperature still was at 99° F. On the fifth day after the solitary emetine-dose (Nov. 22), there was another passage, part hard, part softish, and the latter was found to contain a few, intact, lamblia cysts.

From the start, the vegetative forms of lamblia had disappeared completely from the feces, and, in view of the almost instantaneous cessation of the diarrhea (followed, in fact, by constipation) as well as the marked general improvement of the patient, no further emetine had been administered. However, in face of a threatening recrudescence, the injections were resumed vigorously, 3-1 of a grain once a day for four successive days. The next passage occurred after two days (Nov.

24); it was hard and soft, and contained none of the parasites. Then, beginning with November 25, the subject was ordered to leave the bed and revert to a meat-diet. Bowel movements became regular, and the man was discharged as "temporarily" cured.

The author expresses the intention somewhat later to subject this man to another course of emetine, so as to preclude a possible relapse; for, says he, fission of the lambliae in their vegetative stage is not known, and more than likely the membrane of the cystic form is dissolved in the intestinal fluids and the parasite again begins functioning. Hence, the importance, clinically, of destroying all cysts present, by means of emetine.

Mayer is convinced that, in spite of assertions to the contrary, flagellate, or lamblia, dysentery is a fact, citing one author, Jannin (named above), who has reported the death of a patient in whom lambliae, present in enormous numbers, had penetrated deeply into the colon-tissues, which exhibited marked dysenteric lesions and an abscess owing to a perforating ulcer. In this case, no other pathogenic microorganisms were discoverable.

The deduction is, that, while lamblia intestinalis may greatly multiply in the presence of other intestinal derangements, this protozoon itself also may engender dysentery.

SEASICKNESS: NATURE AND CAUSAL TREATMENT

Of hypotheses advanced to account for the phenomenon of seasickness there are quite a number, and therapies have been formulated to meet the theoretical indications, but no satisfactory solution of the problem has as yet been found. Hence, two articles upon this subject published in the *Muenchener Medizinische Wochenschrift*, claiming advancement in this direction, naturally attract attention.

The first contribution is by J. Fischer, of Bad Nauheim, and he tells his story in the July 29 issue of the journal named. While crossing the Atlantic on a visit to America (in 1912), he recalled certain pharmacologic experiments of his, which had developed the fact that (in sound young men) physostigmine in dosage capable of overstimulating the pneumogastric nerve (3-4 to 1 mg.) will give rise to disturbances simulating seasickness: sialorrhea, nausea, dizziness, headache, pallor, cold sweat, slightly diminished blood pressure, lowered pulse (but sometimes accelerated), irregular respiration, Aschner's phenomenon, and so on.

At once the idea suggested itself that seasickness (and the related states of carsickness and swingsickness) is the expression of an undue stimulation of the pneumogastric nerve, or, more broadly, of the autonomic nervous system; and that this explains the beneficial influence of atropine, which latter exhibits selectively a paralyzing effect upon the former. Fischer goes on to point out how as long as 26 years ago Skinner, and a few years later Girard, employed a combination of atropine and strychnine, with more or less success, on the supposition that the vegetative nervous system somehow is involved in seasickness; and this therapy has become quite a favorite since then.

However, Fischer declares there was but a very vague understanding as to the real role these drugs (atropine and strychnine) play; and not until the more recent researches (Mueller, Langley, Caskell) on the anatomy, physiology, pharmacology, and pathology of the sympathetic system, and particularly the promulgation, by Eppinger and Hess, of the doctrine of vagotonia were we in a position clearly to explain their curative process. We cannot here enter upon Fischer's theory as set forth, but proceed to the practical phase, except for a word as to vagotonia.

This is a term applied by Eppinger and Hess to congenital and acquired undue irritability of the pneumogastric nerve; and, according to them, nervous and hysterical individuals (women preeminently) are vagotonics, as also are the Jews as a class. But, it also is true that such vagotonic individuals are those most subject to seasickness; a fact explaining predisposition to the disorder, as well as occasional attacks in others ordinarily immune. (Temporary indisposition or unusual perturbation of the vessel.) With this in mind, Fischer took notice of all the passengers eventually attacked and fully established the truth of this observation; which, moreover, was fortified by the results of the atropine therapy instituted.

Both his trips were decidedly stormy, and altogether 52 passengers (of all three classes) came under Fischer's treatment. To test his theory, before starting upon the return trip, he subjected all the passengers of one steerage compartment (it was the "Amerika" of the H.-A. Line) to a test for vagotonia, and the notable observation was made that all those in whom he detected irritable pulse, irregular respiration and Aschner's phenomenon (vagus-symptoms) were those who became sick earliest and most severely.

The effect of the atropine injections (dose,

1 mg. in men and 3-4 mg. in women) is described as astounding, as a rule. Soon the symptoms began to subside—although the sea would even grow more turbulent—and within three or four hours generally the patients were completely restored. Mostly a single dose sufficed, and that in some of the most intensely sick and completely prostrated victims. Never more than two injections were required, while none of these experienced a relapse.

In one steerage compartment, 8 very sick persons were given the atropine injections, and 6 of these reappeared on deck next morning, entirely cured; 2 of them were relatively much improved. On the other hand, the seasick in an adjoining compartment did not then get the atropine, and all were as sick the following morning as before.

Fischer emphasizes the complete harmlessness of this atropine dosage under the circumstances. For comparison, he also tested its action given by mouth (30 patients), one or two doses of 20 drops of a 1 : 1000 solution, twelve to twenty-four hours apart. Action was satisfactory, but less prompt and reliable.

Concluding that the results of the atropine therapy demonstrate the correctness of the vagotonia hypothesis for seasickness, Fischer endeavors to explain the effect of the ship's (and of other objects) motion upon the autonomic nervous system by accepting the view that there is induced electively a profound disturbance of "tissue-energetics," a rapid change in "molecular mechanics" of the tissues involved. (Rosenbach, Mueller.)

The other article referred to in the beginning is one by Professor Friedlaender, of Frankfurt a. M. (l. c., 1913, No. 33), who fully agrees with Fischer's ideas. Having devoted much attention to this subject (including some personal experiences), he finds in Fischer's presentation a corroboration of the idea that a visceral and a nervous nau-pathia must be distinguished (with, of course, their mixed types); the visceral being the milder and less numerous form. The severer attacks, he points out, are associated with that terrible sensation of annihilation or goneness, exactly as encountered after blows upon the stomach or testes, and in certain diseases, besides that suggestively induced—all based upon disturbances of the autonomic or, broadly, the sympathetic system.

Now, to apply this hypothesis, Friedlaender assumes the to and for movements of the ship to cause the stomach, besides the viscera, to be thrown this way and that, and this produces a stretching of—a pulling upon—the

esophagus, thus directly and violently affecting the pneumogastric nerve. This assumption not alone explains the benefit derived from keeping a prone position, but furnishes a basis for the claims of a seafaring friend of his, who (contrary to the popular notion) advised keeping the stomach as empty as possible on a stormy sea voyage.

Since that time—years ago—Friedlaender has been advising elevating and fixating the stomach when one fears seasickness; which is a simple matter, and should be done before entering the ship. The subject lies flat on his back, legs drawn up, and then a broad flannel bandage, several yards in length, is wound around the abdomen in one or two tours, beginning at the bottom and gradually forcing the viscus upward, in that manner rendering the gullet more slack. (Bandaging the abdomen or wearing a tight belt are old practices, of course.) This mechanical precaution, in conjunction with a vigorous atropine therapy, Friedlaender considers far more promising than reliance upon nervines and hypnotics.

Friedlaender, in addition, is confident of good resulting from applying the vagotonus doctrine, and the treatment suggested, to other conditions dependent upon irritation of the pneumogastric nerve and the autonomic system, as above alluded to, and he hopes for extended experimentation by seafaring men.

HYPODERMIC PURGATIVES

Our veterinary brethren are using successfully a number of hypodermic purgatives. In human medicine, however, our efforts in that direction have been hesitating and feeble. It is interesting, therefore, to review the work now being done in this field in France and Germany. In the *Gazette des Hôpitaux* for March 10, there is (p. 475) a paper by Brelet, which is an excellent résumé of some of the recent work.

As far back as 1874, we learn, Luton recommended the use of hypodermic injections of magnesium sulphate in the treatment of habitual constipation. Then, a little later, Armaingault used the same remedy by the subcutaneous route, and reported his experience with some 60 patients. In Germany, Frommueller tried subcutaneous injections of solutions of aloes. However, little more has been done in this field until in quite recent years. Among the remedies considerably employed are, sodium sulphate, magnesium sulphate, senna, buckthorn, cas-

cara, rhubarb, aloes, phenolphthalein, and the peristaltic hormone (hormonal).

Braillon ("Contribution à l'Etude des Injections Hypodermiques Purgatives," 1911-1912) found sodium sulphate effective, but it causes sensitiveness of the skin and even scar formation. Sodium citrate, when injected under the skin, is very painful and, therefore, contraindicated. Magnesium-sulphate injections were tried by Braillon, but not found very effective. Senna infusions (10 percent) were not painful, and in rabbits made the stools softer and more abundant; however, in the case of dogs he obtained no results with this drug. Given to rabbits, rhubarb, cascara, and buckthorn were very similar in action to senna; that is, they produced no real purgation, but considerable change in the consistency and weight (which was increased) of the fecal matter. Aloes is toxic for the rabbit, but harmless to the dog, and decidedly purgative. Phenolphthalein seemed effective in the rabbit, and even more so to the dog.

Especially interesting were the experiments performed by Carnot and Glénard (*Bull. de la Soc. de Biol.*, 1912, Nos. 12 et seq.), upon segments of a rabbit's intestine. These portions of gut were resected, then cannulas were introduced at the ends—for the collection of intestinal liquid—and thus kept in an incubator containing oxygenated Ringer-Locke solution at 39° C. In this way, the life of the intestinal segment may be continued and after several hours still will present some slight peristaltic movement. Now introducing into the arteries and mesenteric veins of this segment Ringer-Locke solution containing the purgative it is desired to test, it is possible to determine its action upon peristalsis and intestinal secretion.

The authors named found that, under these circumstances, sodium sulphate increases intestinal peristalsis very decidedly, but it does not influence intestinal secretion. The action of magnesium sulphate, however, is almost the reverse of that of the sodium salt, arresting peristalsis and causing marked relaxation of the intestine, which becomes quite flaccid and fills up rapidly with "liquid of transudation." Aloes decidedly increases peristalsis and dilates the mesenteric vessels. Phenolphthalein both increases peristalsis and the quantity of intestinal secretion.

Carnot concludes that there are certain distinct indications and contraindications for the hypodermatic use of these remedies. For instance, the first indication is present when, for any reason, the digestive tract is intolerant,

as in the case of excessive vomiting, lead colic or coma. In other cases, direct contact of the purgative with a digestive lesion may be harmful, as, for instance, in ulcer of the stomach or some gastrointestinal neoplasm.

Still another advantage presented by the subcutaneous route is, the decided reduction in the dose required. And, finally, when given hypodermically, the purgative often continues to act for several days; a fact of considerable advantage in cases of rebellious constipation, especially if the digestive canal has already been exhausted by the continuous employment of various laxatives.

There are also special indications for the different remedies cited. For instance, in cases of spasmodic constipation, where there is contracture of the intestine, the use of sodium sulphate would be contraindicated, while the magnesium sulphate not only relieves the spasm, but also has a purgative effect. On the other hand, where there is an atonic and flaccid condition of the bowel, remedies which incite contraction of the intestine, such as sodium sulphate, senna, cascara, and hormonal, might be indicated.

Where the large intestine is principally affected, the writer suggests the use of senna and sodium sulphate, which seem to exert a part of their action upon this portion of the bowel. The peristaltic hormone, rhubarb, and cascara, on the contrary, seem to act more particularly on the small intestine. Upon the human subject, aloes seems to have a slightly toxic action, causing pain at the site of injection and sometimes chilliness and colic. Senna seems to give fair results, without any deleterious local or general reaction.

Most experiments, however, have been made with magnesium sulphate. This, apparently, has been given to patients in doses of 25 decigrams (4 grains). Robin and Sourdel (*Soc. Med. d Hôpit. de Paris*, June 14, 1912) used a sterile 25-percent solution, 1 Cc. being the ordinary dose, and this repeated every day. After the first two injections, the result obtained was not a purgative one, but, rather, evacuant, and this rarely accompanied by diarrhea. Sometimes no action resulted until after these injections had been repeated for several days.

Gaillard quotes 46 observations in which magnesium sulphate was used upon human subjects in the way just described. These injections were absolutely harmless and found effective in about two-thirds of the cases, evacuation occurring on an average of seven or eight hours after injection. Carnot employed a 1-percent and a 10-percent solution

of sulphate of magnesium, injecting of the first from 2 to 20 Cc., of the latter, 1 to 3 Cc., according to the results desired.

The conclusion of Brelet is that the purgative action, when the hypodermic route is employed, is characterized by mildness and prolongation, and this result is obtained quite independent of the size of the dose; for, when the doses are doubled, tripled or quadrupled, the results following are not proportionate. He agrees with Carnot, that purgatives given in this way are less constant in their action than when the drug is given as ordinarily, by mouth.

MEDICAL TREATMENT OF APPENDICITIS

Dr. Beverly Robinson, of New York City, has favored us with a personal letter and, with it, enclosed some reprints regarding appendicitis. He assures us that he has read and enjoyed Dr. R. L. Vioran's paper in the March number of *CLINICAL MEDICINE*, with many statements of which, it seems, he is in accord, and says: "I feel convinced that in a very few years from the present time an operation for appendicitis will be extremely rare; we shall have gained real wisdom and shall guide our patients with united advice to seek the best means of prevention and cure."

In an article upon "The Medical Treatment of Appendicitis," published in *The Medical Record*, March 22, 1913, Doctor Robinson has outlined a method of treatment, which consists in the following measures: Rest in bed; enemas consisting of egg emulsion of olive-oil, a pint to a quart to be given each time; the enema to be repeated if there is much griping or increased pain. Locally, applications of warm flannels rung out of a mixture of alcohol, 1 part, and warm water, 3 parts, and covered with rubber tissue. Codeine tablets, 1-10 grain, are given every two hours until the pain is notably less. Cracked ice and brandy are given for nausea and weakness. Operation is absolutely forbidden unless a good surgeon is present and the conditions for operation are favorable. In the vast majority of cases, Doctor Robinson declares, a cure will be established within a few days.

From a paper upon "Obsessions in Medicine," also contributed by Doctor Robinson to *The Medical Record*, we quote the following portion:

"Immediate operations for appendicitis are now urged at home and abroad, and by

very many of the best surgeons and physicians. I protest against any such rule of practice, because I believe it to be woefully wrong. I have watched the trend of practice for many years and have been a frequenter of the deadhouse in large hospitals. Of course, patients did die, and would die, because of general peritonitis due to perforation, who, if managed sanely and by the old-time practitioner, would recover.

"I do not affirm that the cure in bad cases (and by these I mean perforation and general peritonitis or, indeed, where it is shut off and limited by adhesions, would be as rapid if it occurred, but I do mean to affirm it would be quite as safe and sure. I am quite aware that this statement, if considered and answered, will meet a storm of contrary judgment, but I state my belief, all the same, unwaveringly.

"One method used nowadays before operation I deplore, and that is the use of the ice-bag. It may diminish pain, but little more than alcoholic applications locally and codeine internally; and, surely, to my mind, it prevents the reestablishment of circulation in the appendix and adjacent colon, which is usually implicated in the disease.

"I still believe—and despite all manner of invective against purgatives in threatened or declared appendicitis—that a dose of castor-oil rarely does harm. The amount of increased peristalsis caused by it may, indeed, occasionally determine a rupture of the appendix a little sooner than it would otherwise occur, but in the majority of cases it will help prevent an unnecessary operation. However, in order to avoid the minimum additional risk of which I speak, and out of regard for a widespread obsession, as I believe, I should be content, very frequently, with large and repeated oily enemata."

ANTITYPHOID VACCINATION IN FRANCE

At the February 10 meeting of the Academy of Medicine (*Gaz. des Hôp.*, Feb. 12, 1914, p. 282), Vidal reported some results with antityphoid vaccination in a garrison which in 1912 suffered from a terrible epidemic, in which 225 in 1000 nonvaccinated people suffered from the disease and 32 succumbed. He vaccinated, without any special incident resulting, the older soldiers who were not yet immunized and the young soldiers but recently enlisted. His confrères at Avignon had followed the same practice. All told,

2420 men were vaccinated, these representing 9000 inoculations.

The local reaction amounted to practically nothing; only two men in the 58th infantry complained seriously, and no person was sick enough to require admission to the infirmary or hospital as a result of the inoculations.

The prophylactic results have been as follows: There was not, in 1913, a single case of typhoid fever among the troops in the garrison. Such a result has never occurred before. From 1892 to 1912, inclusive, there had been 1263 cases of typhoid fever and 118 deaths from this cause at this garrison. The number of days of treatment have been, all told, 44,133. In 1913, all these figures have been reduced to zero. Besides these, 400 nonenlisted persons who received the vaccine treatment also have enjoyed complete immunity.

See also the article on page 424, this issue, giving further experience of a like character.

THE FEEDING OF TUBERCULOUS CHILDREN

According to Prof. A. Czerny (Berlin), the fact that the tuberculous process spreads more readily than in older children and in adults stands in relation to the greater content of water in the organism of the infant and young child, the latter condition due to the almost exclusive feeding with milk and carbohydrates. In feeding tuberculous children, the excessive gain in water, on the part of the tissues, must be avoided, since any great increase in weight may merely represent water, and therefore be useless. The diet should be mixed, and milk should not predominate. For an increase in fat, Professor Czerny advocates the old-fashioned codliver-oil.

In this connection, interest attaches to some experiments on which Enoch Muller, an assistant of Czerny, recently reported and which were undertaken at Czerny's desire. Some rabbits were fed exclusively with carbohydrates, this producing a great gain in weight, mostly due to water in the tissues; other rabbits were fed with fatty substances, which led to an increase in weight by which the specific gravity of the tissues also was increased. When both groups of animals were infected alike with tubercle bacilli, the carbohydrate-rabbits developed a rapidly progressive tuberculosis, while the process was slow in the fat-rabbits.

Miscellaneous Articles

The Nelson Amendments to the Harrison Antinarcotic Bill: What the Profession Thinks About Them

FROM all directions we are getting the news that physicians, all over the United States, have been aroused by the attempt to force into the Harrison Antinarcotic Bill, during what appeared to be its last week on the calendar before final consideration by the U. S. Senate, certain amendments (introduced by Senator Knute Nelson) which would practically debar physicians from dispensing the narcotic drugs, and which would require the keeping of burdensome and unnecessary records of any remedies of this kind which might be administered.

A number of medical societies have already memorialized Congress in regard to these amendments, and we believe that a great many physicians have written or telegraphed personally to their representatives and senators. What the medical profession here in Chicago thinks about the Nelson amendments is very clearly shown by the resolutions introduced and passed at the regular meeting of the Chicago Medical Society upon the evening of April 1. These resolutions are as follows:

"WHEREAS, House Bill No. 6282, otherwise known as the Harrison Antinarcotic Bill, has passed the House and is in the Senate at Washington, and

"WHEREAS, Said bill as passed by the House was satisfactory to the profession, and

"WHEREAS, An amendment has been offered by Senator Knute Nelson of Minnesota practically prohibiting physicians, dentists and veterinarians from dispensing or distributing narcotic drugs to patients by substituting the word 'administration' for the words 'dispensing and distributing' in said bill, and

"WHEREAS, Such amendment would prevent physicians from sending, by messenger or otherwise, remedies for immediate relief when unable personally to attend a patient on the instant, and

"WHEREAS, Such restriction upon the efficiency of physicians tends to limit their usefulness to the people, and

"WHEREAS, The amendment in question is evidently offered purely in the interest of dispensing

druggists to the detriment of good medical service to the people; and

"WHEREAS, The record-keeping feature, also suggested by Senator Nelson, is unnecessary and therefore a needless burden to the profession;

"THEREFORE, BE IT RESOLVED, By the Chicago Medical Society, that the Nelson amendments should be defeated in the interest of public welfare, and be it further

"RESOLVED, That a copy of these resolutions be published in the Chicago Medical Society Bulletin and that a copy be sent to each United States Senator and the members of Congress from Illinois.

J. V. FOWLER, *Chairman*,
C. J. WHALEN,
E. M. WEBSTER,
Public Relations Committee."

These resolutions were sent with a letter to each senator and representative from Illinois, and from the official *Bulletin of the Chicago Medical Society* we learn that replies have already been received from fourteen Illinois congressmen and from at least one of the senators. In commenting upon this matter, the *Bulletin* expresses itself as follows:

"The medical profession must look with great satisfaction upon this step in the right direction taken by the Federal Government.

"No effort is too drastic, when the end in view is the curtailment of the traffic in human suffering and depravity, resulting from the habitual use of narcotics.

"It seems that House Bill No. 6282, which was entirely satisfactory, has received the attention of our friends, the druggists, after its second reading in the Senate, by an amendment introduced by Knute Nelson, senator from Minnesota.

"This is inferred from an article which appeared in the *Journal of the N. A. R. D.*, March 26th, page 1, 451:

"It is suggested that it (H. R. 6282) be amended to take from physicians, dentists and veterinary surgeons the right of dispensing or distributing the drugs enumerated in the bill by giving them the right only to administer them."

"If it is true that the National Druggists' Association is behind this proposed amendment, we can only say that it is a shame that an organization of high-minded men has allowed a sordid business

trick to interrupt, in any manner, the peaceful course of an effort by the federal government to control the sale of narcotics.

"If this is an attempt to prevent the dispensing of drugs by the physicians, it is an ill chosen time and occasion, because the passage of the Nelson amendment by the Senate will cause unnecessary suffering by the public, not by the physician.

"Substitute the word 'administration' for 'dispensing or distribution,' in the bill and you will appreciate what the much discussed Knute Nelson amendment means to a patient, needing a narcotic, when the physician called cannot respond at once, though able to send the medication by a trusted messenger."

Elsewhere in the same number of *The Bulletin*, the following comment is printed:

"Should this amendment be adopted the result would be serious, either in making of the physician a law breaker, or, if he obeys the law, reducing his equipment to a point where his services would be only partially effective.

"If physicians are deprived of their right of leaving a narcotic, Dover's powders, morphine or anything else of like nature to be given by the nurse or taken by the patient, the public will suffer needlessly.

"Our Public Relations Committee is to be highly congratulated upon discovering this surreptitious effort on the part of the druggists to further their propaganda of "No dispensing by the physician," in time for organized medicine to make an attempt to block the play."

We wish we had space to reproduce in full the fine editorial upon this topic published in the April number of *The Illinois Medical Journal*, organ of the State Society. However, the editor of the *Journal* sums up his opinion of the Nelson amendments in the following language:

"It is difficult to speak in moderation of such an attack on the immemorial privilege of the profession to give to patients personally or otherwise, when necessary, such remedies as are necessary for the immediate relief of pain or other severe symptoms, when the physician cannot attend on the instant. The matter of keeping a record, if construed as it evidently could be, to include a careful record of every dose sent or administered, would be irksome, but might be endured by the profession if necessary to overcome some great and urgent evil. But the prospect of keeping such records will not be relished even by men doing an office business, and for the great mass of the profession engaged in family practice it would mean an almost impossible hardship. The word 'administration' in the Nelson amendment can clearly be held to forbid all giving of medicines except on personal attendance.

"The provision of the bill requiring that the physician must be specially employed to prescribe for the particular patient might be construed to prohibit the giving of immediate relief in cases of accident, as in railroad wrecks, where the physician might be present.

"The animus of Senator Nelson's amendment can be inferred from an article in *The Journal of the N. A. R. D.*, which, on March 26th, in a communication, made the following statement: 'It is suggested that it (H. R. 6282) be amended to take from

physicians, dentists and veterinary surgeons the right of dispensing or distributing the drugs enumerated in the bill by giving them the right of *administering*.' This suggestion smells so strongly of the Nelson amendment that it may fairly be assumed that the National Association of Retail Druggists is back of the bill. It seems quite evident that the Druggists' Association is attempting to limit physicians to prescribing. Another joker exempts patents and proprietaries through a skillful juggling of the requirements of the Pure Food Law in the matter of stating on the label the amount of drugs contained.

"It is up to the medical profession to make their desires known instantly by communicating with their senators and representatives in Congress, that the Nelson amendment may be killed. The bill, as passed by the House, may be accepted as satisfactory, although it reaches the limit of endurance in the matter of supervision by the government. Representative M. D. Foster is a member of the House Committee which introduced the bill, and is a physician. Senator Gallinger of New Hampshire is also a physician, and possibly a united protest made to any of these gentlemen would save the profession from a disastrous experience and our patients from unrelieved pain and suffering."

We have no doubt that the medical profession elsewhere in the United States has been equally active in its opposition to this unfortunate series of amendments. The condition was an emergency one, demanding immediate action, and we are proud to be able to say that when this emergency actually presented itself the medical profession was quick to respond in defense of its rights. We are sure that every physician hopes that the Harrison Bill may become a law, and every man should use all the effort he can to effect that result, demanding, however, that it shall not be saddled with any amendment designed to build up another profession at the expense of our own.

At the present time there is a perfect epidemic of legislation affecting the interests of the physician and the drug trade. Some of it is good, much of it is meddlesome, and not a little absolutely dangerous and disastrous. We may expect that next year, when more than forty of our state legislatures will be in session, we shall have dozens of these bills to deal with, and it is essential that the profession should realize this fact and be prepared for what will surely be attempted. The right and reasonable method of getting needed legislation is for all those interested to get together upon a sane give-and-take basis, without any thought on the part of anyone—any class or any profession—of trying to obtain financial benefit through hurting somebody else. We want clean legislation, of a constructive character, made by men whose main interest is the larger interest of the public and humanity.

The present duty, however, is to oppose these iniquitous amendments.

SILVER-NITRATE TREATMENT OF TONSILLITIS

Having read Dr. C. W. Canan's interesting article in the March issue of *CLINICAL MEDICINE* (p. 264) on a severe and stubborn case of tonsillitis, I wish to tell of some of my own experiences with various cases of tonsillitis and the treatment adopted, since he requests expressions from the brothers who might be interested. I will premise that out of the goodly number of cases of tonsillitis, some of them quite severe, only one necessitated resort to the bistoury and only one ruptured spontaneously. All my other cases responded nicely to the regular routine treatment, which I will proceed to outline.

The various cases, quite naturally, presented different symptoms and different phases, still, my treatment varied only in degree, and not in principle. So far as dietetic management was concerned, no special attention was paid to that, excepting in the two cases which developed into quinsy, as before mentioned. These latter patients had to confine themselves to liquid diet, but this as a matter of physical necessity rather than of choice. The other patients were permitted to eat whatever their appetites craved.

In many of these cases the patients developed a severe and prolonged rise in temperature, averaging about 100° to 101° F., with pulse correspondingly fast, and weaker than normal. Appetite, as a rule, was not very good, while the odor of the breath varied with the amount of debris in the buccal cavity and the condition of the intestinal tract as a whole. Pain was almost always a constant symptom and especially marked during deglutition.

Having arrived at a diagnosis with elimination of all possible suspicion of diphtheria, the next step was, to cauterize the surface of the tonsils with 60 percent solution of silver nitrate, the action of which was to form the albuminate of silver with the pathogenic bacteria on and in the tonsils. From a chemical standpoint, some possibly may doubt the accomplishment of such a beautiful reaction, nevertheless, from a clinical and therapeutic standpoint, there does occur a profound reaction, and not a painful, one either. The application of this silver-solution, provided the technic is followed care-

fully, is not even disagreeable, while the patient feels much relieved in a few minutes.

Technic: Using a long probe (either wooden or metal), wrap a small amount of absorbent cotton around the end, in the usual manner, saturate this cotton by dipping it into the solution of silver nitrate (60 percent), then press out all excessive fluid by means of a squeezer of cotton, so that there will be absolutely no excess fluid in the swab. Thus ready and prepared, expose the tonsils by depressing the patient's tongue, and then proceed to swab the tonsils over their entire surface, being particular to enter the diseased crypts and follicles, if these can be reached.

Caution: Great care must be exercised that no excess silver-nitrate solution oozing from the swab drops into the throat, lest serious results might follow; for, as we know, cases are on record in which edema of the glottis, severe spasm of the larynx, and other spastic affections of the throat, even suffocation, resulted from such accidents.

If the patient gags and coughs, the physician should avoid the spray from the mouth of the patient, for the silver nitrate contained in it may unpleasantly stain his hands with little black specks; but worse, this same small amount of silver nitrate sprayed into one's eye would cause serious trouble because of its great concentration.

If there happens to be in the throat any filmy membrane that can be removed with a swab, be sure to do so before applying the silver solution in order that you can apply the chemical directly to the tonsillar tissues. If you happen to touch up the tongue while making the application, and it is uncomfortable for the patient a quick swabbing with a cotton wad dipped in alcohol will immediately relieve it—and by some patients may be relished so greatly even as to endanger the life of the swab.

Usually one or two of these caustic applications in the early stages of an acute tonsillitis will suffice to shrink up the tonsillar tissues and remove the probability of recrudescence of the inflammation and other symptoms. It is interesting to note that, just as soon as those who are regularly subjected to recurrent attacks of sore throat discover that they can have the attack aborted by one or two trips to your office, you will find them constantly on the alert, quick to make that trip, before the painful trouble can make any progress.

A number of persons who were subject to these attacks anywhere from two weeks to a month, and these often followed by attacks

of rheumatism, and had been treated by other physicians in other localities, have assured me that the silver-nitrate cautery is the most efficient and quickest-acting treatment they ever have been subjected to.

In the event that the soft palate is inflamed and edematous, the swab will remedy that also in almost every instance and without any discomfiture to the patient. Tincture of iodine painted *externally* over the tonsillar area oftentimes will afford some relief if used in conjunction with the other treatment; and has a good psychic effect upon the patient.

In conjunction with this cautery treatment, I usually prescribe for internal use the following powders:

Acetphenetidine. Gm. 0.5
Acidi acetylsalicylici. Gm. 5.0
Caffeinae citratis. Gm. 0.5
Divide in chartulas No. 15

Sig.: One every four hours with half a glass of water.

When these powders have been taken, I prescribe sodium salicylate, 5 grains three times a day, for about thirty or forty doses. In consequence, during my entire practice I have not had one case of rheumatism following tonsillitis. Some of the patients who were treated previously by other methods told me that they expected to have an attack of rheumatism after they were through with the tonsillitis, but, luckily for me, they were all disappointed—and I like to think that some of this luck is due to the treatment. (Did I hear somebody say “exaggerated ego”?)

As a laxative and antipyretic combined, I have been using, with excellent results, effervescent magnesium sulphate.

After the acute attack has subsided, general tonics are given. For example: Elixir ferri, quinae et strychninae, Gm. 120.0, Dose: 1 ounce in water three times daily, half an hour before meals. Or this:

Elixir. ferri, quinae et strychninae. Gm. 120
Elixir. lactopeptini, q.s. ad. Gm. 180

Directions: Take 1 ounce in water three times daily, half an hour before meals.

As a farewell, I tell the patient that, in the event of anything looking like a recurrence, he must not wait until the disease has progressed to the abscess-stage, but should have the cautery administered as an abortive measure as early as possible. For, if these glands are cauterized in the initial stage of inflammation, it is no trick at all to abort the condition, which is so troublesome once it is fully developed.

F. J. PORT.

Milbank, S. D.

[May I rise to suggest one other remedy—

our old favorite, calcium sulphide. When there are signs of beginning inflammation, with pus formation, we know of nothing that goes to the seat of the trouble more energetically than this highly scented yet potent drug. It may well be used in association with the sodium-salicylate treatment which Doctor Port recommends so highly. Nuclein is of value in these cases, so is iodized calcium, so indeed is the through course of bowel elimination which the doctor suggests. Indeed, I am inclined to think that no single expedient is of greater importance than the thorough cleansing of the alimentary canal.

The local medication applied in “sore throats” is too often valueless. Doctor Port goes at things with a commendable energy and thoroughness that must appeal to every thoroughly live clinician. The strong silver-nitrate solution is no doubt efficient, and so is painting the tonsillar surface with iodine tinctures of varying strength. It would be interesting to learn the favorite topical applications of our readers. When thinking of *external* dressings do not forget concentrated magnesium-sulphate solution compresses. Don’t scoff—try them.

Finally, remember that a chronically infected tonsil may profoundly depress the general health. It is the port of entry for organisms that cause rheumatism; it is responsible for many an obscure case of chronic arthritis. Some “wonderful cures” of various obscure conditions are effected through its removal; and bacterin treatment, using tonsillar bacterial cultures as a basis, has been found effective in numerous instances.—ED.]

TYPHOID FEVER AND TONSILLITIS: A SUGGESTION FOR EACH

I wish to call especially attention to Dr. J. M. French’s article on the “Treatment of Typhoid Fever,” published in the March number of CLINICAL MEDICINE, and also to Dr. C. W. Canan’s letter headed “An Obstinate Case of Tonsillitis.” Both are good, but in each case treatment could be improved, I think, if galactenzyme tablets were added; for, in typhoid fever, the Bulgarian ferment is a remedy without a peer, while, in tonsillitis, used both as a spray and internally, I regard it as an essential.

If we would use more of a reliable preparation of the Bulgarian lactic-acid bacillus, we should shorten even bad cases of typhoid fever to two weeks’ duration, and a tonsillitis

month and sometimes oftener; the family having kept an account until she passed the fortieth outbreak, when they gave up count. The woman had been attended by every physician within reach, but the attacks kept recurring.

I was a new man there, while these people had moved close by, so, I suppose, they thought they would let me take my turn. I decided to try antistreptococcic serum, and injected 10 Cc. of it, and in twenty-four hours administered a like dose. This simple treatment caused prompt subsidence of all the symptoms. There has been no recurrence of the trouble within, now, eight months.

I have been using antityphoid vaccine with uniformly good results, also.

WM. E. MARTIN.

Roslyn, Ind.

[Doctor, please tell us whether prior to your antitoxin experience, just described, you have ever had administered to you a dose of serum of any kind; if so, how long ago? You had serum sickness, of course; and we are anxious to know if the trouble was true anaphylaxis.

Why do not more physicians use antistreptococcus serum? It is an emergency remedy which every doctor should have constantly on hand for cases of erysipelas, puerperal fever, and "blood poisoning."—ED.]

CHROMIUM SULPHATE IN ALL DISEASES REFERABLE TO THE NERVOUS SYSTEM

Chromium sulphate has given excellent account of itself in the treatment of nervous disorders and their complication. About its chemistry and specific therapeutic action, I have as yet found nothing in my reading; but from practical application three factors stand out preeminently; namely: (1) It has brought about favorable changes in all diseases of nervous origin and in some a complete cure; (2) in doses of 8 grains three times a day after meals and at bedtime, it has proved dosage enough, yet, not too much; (3) its prolonged administration in goodly dosage had no bad effects, with the exception of a slight vertigo and a slight tendency to constipation.

However, the results are not prompt, usually a week or more elapsing before symptoms begin to abate; therefore, when loss of time means loss of confidence in the physician, it is well to add nervine (Wagh)

2 tablets three times a day, or hyoscyamine sulphate, 1/500 grain three times daily, or compound bromides, 25 to 30 grains, according to severity of symptoms; omitting these when the chromium sulphate has begun its work. I have found it best to give the patient several hundred tablets at each prescription filling and inform him about the slowness of its action, but that he may expect relief in due time.

The cleanup treatment is most essential in all cases when chromium sulphate is applicable, as there almost always are symptoms of faulty hepatic metabolism, with indigestion and constipation.

It would be well if some of the readers of CLINICAL MEDICINE would give us their experience with this drug, in order that the remarkable results could be explained.

I will cite a few cases in which good results were obtained. The first is somewhat lengthy, to convey the gravity of the condition, the others are merely alluded to.

Case 1. Farmer, age 40, single, previously a man of remarkable prowess and good health. In the fall of 1912, while engaged in a stooping occupation of a few weeks' duration, this man suffered a "catch" in the back, located to the right of the middorsal spine. Faradism, vibration, massage were of no avail; liniments and analgesics helped but temporarily. The first six months were spent in seeking relief, from numerous suggestion-theraputists, quacks, and regular physicians, but he lost strength, confidence, and complained of various nervous symptoms. A brother, some years before, a man of sound physique, had died suddenly, which impressed this patient to expect a similar end. Although I was the nearest physician, my services were always avoided, until July 5, 1913, when I was called to his home.

The patient had been in bed a week or more, being too much exhausted to help himself; complained of severe basilar headache, pain in the lumbar spine, hot and cold flashes, insomnia, afraid to fall asleep because of self-destructive dreams, each day would have a severe weakening spell followed by some relief, numbness in the hands, and a marked girdle-sensation over the waist-line. Bowels were constipated, urine tests were negative.

As the man feared immediate dissolution and had visions of self-destruction, I ordered a close watch, and prescribed hyoscyamine to effect, with bromides as alterative.

The diagnosis, in consultation with another physician, was neurasthenia, and here I was,

trying to cure a patient, when dozens of others had failed.

Three weeks of a cleanout, cleanup, and keep-clean regimen, with tonics and nerve sedatives, and daily visits on my part, made it possible for the patient to get out of bed; but each day would start in with a new symptom, until I had a "shotgun" disease on my hands.

Then, one day, the legend, "Chromium sulphate in neurasthenia," met my gaze, and, for lack of something else, I gave my man chromium sulphate, 8 grains after meals and at bedtime. To my surprise and gratification, slowly but surely one symptom after the other vanished. Then the patient was given a liberal supply of tablets of this drug and Hinkle's tablets, and made no more visits, although keeping in touch with him. In four months he had lost all symptoms but one, namely, an "aversion to coming to town or being in a crowd." The first of March, though, I met him in a big crowd, and as sound and healthy as he had been in former times.

Case 2. Married woman, age 30, complained of basilar headache, lumbar sacral pains of years' standing, great nervousness, and being high-tempered. All symptoms were aggravated by overwork and aroused emotions. Ordinary medicaments proved of no avail. Then chromium sulphate, 8 grains after meals and at bedtime, with a saline laxative in the morning, was given, followed by marked amelioration of symptoms. The drug is still being taken in the same dosage, without return of symptoms or ill-effects.

Case 3. Married woman, aged 40, nervous wreck. She kept a pill for every ailment—kidney-pill, stomach-pill, headache-pill, nerve-pill, and heart-pill. Chromium sulphate has eliminated the revenue from most of them.

Case 4. Man of 49 years, single, doing clerical work. Symptoms: "Brain-fag," insomnia, nervous exhaustion, spermatorrhea. These symptoms were ameliorated by similar treatment with this drug.

Case 5. Male student, age 17. Complained of nervous spells and marked twitchings of the eyelids—diagnosed by a specialist as of nervous origin. Four weeks of similar treatment relieved the symptoms.

These and similar results have been attained in all nervous cases by the use of chromium sulphate and the cleanup treatment. If others will try this and report in some subsequent issue of the *CLINICAL MEDICINE*, and the editor will tell us of its definite therapeutic action, we may be able

to place chromium sulphate on the list of our dependable drugs. But be patient, as this drug acts as the tortoise moves, slowly but surely.

ROBERT HURKA.

Verdon, Neb.

[We wish we could tell Doctor Hurka just how chromium sulphate acts, but we are frank to confess that we can not. It was introduced to American physicians some two or three years ago by Kolipinski, of Washington, who reported quite remarkable results following its use in locomotor ataxia, enlarged prostate, neurasthenia, and in a number of other conditions. It is not a "sure cure" for any of these diseases, and in locomotor ataxia it certainly has proven disappointing; but many cases of prostatic disease have responded very favorably to its use—although it often fails. Some of the reports of improvement (even of apparent cure) in prostatic enlargement are quite remarkable, certainly warranting a thorough trial of the drug. Doctor Hurka's report of experience in neurasthenia is typical of a number of the kind we have seen. We wish many others would report. By the way, what do our readers think of the drug as a remedy for male impotence? No two men seem to agree to its usefulness in this condition, but apparently it does *something*.—ED.]

TWO OLD BUT GOOD REMEDIES FOR TUBERCULOSIS

Allow me to call the attention of any physician who is treating localized external tuberculosis to two old, reliable remedies that have given me such marked results when all other remedies, even surgery, had failed and the patients seemed doomed.

These remedies are iodine and beechwood creosote. Both these remedies have acknowledged therapeutic qualities in this disease, when taken internally, but I am now directing their use locally.

Both of these remedies have caustic, or destructive, local effects; but, notwithstanding this, they are just the remedies we need and will show less desquamation, owing to the resulting discharge, which neutralizes the caustic effects in tuberculous pus cases. I have treated several cases of tuberculous abscesses, necrosis of bone, with tincture of iodine and beechwood creosote, in equal parts, after surgery had failed to benefit the patients permanently, and with prompt results. Here is an illustration:

A workingman, 32 years old, who never before had been injured, complained of a pain in his left side above the nipple, and was treated for pleurisy, although the only physical sign was the pain. Upon careful examination I found, deeply seated, a pus-cavity, from which I removed 12 ounces of a foul dirty pus and then inserted a rubber drainage-tube, three inches, between the second and third costal cartilage. Later I found the third and fourth ribs to be necrosed for three inches and extending over to the sternum. A prominent surgeon removed all the diseased bone, which afforded temporary relief; but in a short time the axillary glands were effected and the disease extended farther along the ribs and deeper into the breastbone. A second operation removed the diseased tissue and bone, but with no better results, and it was apparent that he was doomed unless some other means could be found.

The patient was losing flesh, could not sleep, and had hectic flushes. All hygienic means—air, food, and tonics failed to improve him. At this junction, I began saturating the cavities and covering the raw surface and skin with tincture of iodine and beechwood creosote, and this almost immediately caused improvement. The discharge lessened, granulations started, the surface took on a healthy appearance, and the men gained 25 pounds in eight weeks.

I could go on with other similar cases, but it is not necessary to consume space. I am not claiming any originality, but, trust that my results may be the means of calling the attention of some brother to the use of these remedies in similar cases and thus be the means of saving precious lives.

H. J. NEELEY.

Butler, Pa.

HOW I TREAT INTERTRIGO

How often cannot the busy doctor call to mind troublesome and painful cases of intertrigo, especially among infants wearing diapers. I myself have seen some cases horrible to look at, the parts covered with the diaper being so badly eroded that the skin was just ready to bleed.

My treatment of this trouble is simple and easy, and even when of the very worst kind I relieve the sufferers at once. I usually direct bathing the parts with tepid water and baking-soda. After bathing the parts well, I gently dry with absorbent cotton. I also order, to be put up in a sprinkling-top box, 2 drams of talcum powder (or Mennen's

toilet talcum) and 3 drams of the compound stearate of zinc powder. The sore parts are covered with this powder after each movement of the child's bowels, then thin layers of absorbent cotton are placed between the folds of the skin.

In treating adults, the same method is followed, except that the powder is not applied as often as in the case of a child.

If any reader of CLINICAL MEDICINE has such a case and has never tried this plan of treatment for intertrigo. I hope he will do so, and, if he doesn't get the results I describe, will write me about it. I believe this simple plan will cure every time.

JOSEPH W. GREGORY.

Cisco, Tex.

THE DIPLOCOCCUS CATARRHALIS AND THE GONOCOCCUS

I have been impressed for some time with the omnipresence of the diplococcus catarrhalis. I should be very much pleased if some of the family, doing considerable laboratory work, would check me up on one point.

In making bacteriological examinations of urines I have found a diplococcus that resembled the Neisser organism in all characteristics except size. Cultures in many instances showed it to be the catarrhalis. When both organisms were present at the same time, the Neisser germ was very much larger than the catarrhalis.

The point is, have others been finding the catarrhalis in the urinary secretion, in chronic cystitis and other chronic inflammatory conditions of the urinary tract; and should we not invariably make cultures before giving a final decision in these cases? I am afraid many of us have been guilty of diagnosing gonorrhea on many occasions when no gonorrhea was present.

WM. BOWEN.

Knoxville, Tenn.

[What you state is unquestionably true. It is essential, except in the very acute, clinically characteristic cases (and even then it is probably desirable) to make a culture in all cases where the accuracy of a diagnosis of gonorrhea is at all in doubt. This should always be made from Gram-stained smears. Of course Gram-negative diplococci may be either gonococci or micrococcus catarrhalis. To decide the matter, the culture material must be transferred to the culture media immediately after obtaining it from the pa-

tient. The micrococcus catarrhalis, however, is rather rare in acute cases; in chronic cases it is much more frequently found.

The micrococcus catarrhalis grows on plain agar at room temperature; the gonococcus does not develop under such conditions. The micrococcus catarrhalis also does not produce acid in glucose media. While the original cultures may grow only slightly, resembling



John J. Apple—Paralyzed but cheerful; also a "hustler"

gonococci, subcultures usually prove very luxuriant.

There are also several other organisms, usually not found in the genitourinary tract, that are similar to the gonococcus in morphology and Gram-negative, especially the micrococcus pharyngitis sicus, the colonies of which show a crinkly dryness, and also the micrococcus pharyngitis flavus, which is somewhat yellowish and waxy in appearance. Most of these, of course, are only encountered in the respiratory tract. Except in the acute cases, there is some tendency to show involution forms, round, irregular and uneven cocci often being present.

The best method in diagnosis in cases of chronic gonorrhea is to direct the patient to drink alcoholic liquors and eat stimulating food, taking active exercise practically amounting to over-exertion; then he should present himself at the doctor's office with a full bladder. A portion of the urine should then be passed, to wash out contaminating organisms from the urethra. The prostate and seminal vesicles are now massaged and the drops of discharge forced out by this massage should be received in a small, sterile petrie dish; finally the remaining urine should be passed into a sterile bottle, and smears and cultures made immediately from the discharge and the urine.

In the female, the discharge from the urethra and cervix uteri are examined. The vagina will rarely show gonococci, except in the discharge of vulvovaginitis of children.

I agree with Doctor Bowen absolutely that cultures should be made before giving a final decision in these cases. However, in the chronic conditions we have a much better method of diagnosis—much simpler and much more positive—in the complement-fixation test for gonorrhea, which of course is not elicited in micrococcus-catarrhalis or other non-gonorrheal infections.—Ed.]

A PICTURE OF JACK APPLE

In the March number of your journal you have a very interesting article about Jack Apple, which it gives me pleasure to confirm. I saw him shortly after the accident had happened. I found him lying on his back—and he is in that same position yet, almost seven years, and as cheerful as can be. Everybody in Savannah knows Jack. He is on the job every day. Weather does not

keep him in. Besides his insurance, he has a modest printing-plant, and he hustles after jobs between times. Jack oversees all the work, such as labels, bill-heads, cards, letter-heads, and the like.

His father died shortly after the accident, but he is in good hands. His mother, whose only thought is for Jack's comfort, thinks nothing is too much for her to do for him. Jack is a sweet young man, and he has a host of good-looking admirers in the young ladies I enclose his picture recently taken.

J. WEICHELBAUM.

Savannah, Ga.

[We are all grateful to Doctor Weichselbaum for this interesting sketch and for the picture of "Jack," which we are reproducing.—Ed.]

NO SEPSIS HERE—WHY?

Why is it that we cannot, in all such cases as the following, have equally good fortune in preventing sepsis?

At about 4 p. m., September 26, a gentleman asked me to go down to his place to see a negro woman. He said he did not know the trouble, but he thought a baby was born the night before.



A Model Small Hospital

—Arthur H. Busch, Architect

I found the patient in a little log hut about fourteen feet square. She was about twenty-three years old, mother of two children, the oldest being two years old, and the other born that morning about 4 o'clock. The woman was in a bed of hay, with old corn-sacks for covers, and in the bed were two dogs and an old cat with four half-grown kittens. I found the baby, with the afterbirth still attached, wrapped in an old corn-sack, and those young cats making a meal eating away on that afterbirth. Every description of filth was in the bed. The floor and bed-clothing were wet.

Now, why in such cases do we not have to contend with sepsis, while we meet with it often when we take all the precaution possible. I meet with cases like the above often, without having any trouble of any kind.

THOMAS LAWSON.

Longstreet, La.

[Many of these people are fine animals—not much else to be sure. However their resistance is higher than that of many people who live in steam-heated flats and do no work with their hands. That seems to be

the principal reason why so generally they escape sepsis. However, there is a difference between pus-infested dirt and "just dirt." The latter may smell to heaven and offend every sense, yet be relatively innocuous. Has any reader a comment?—ED.]

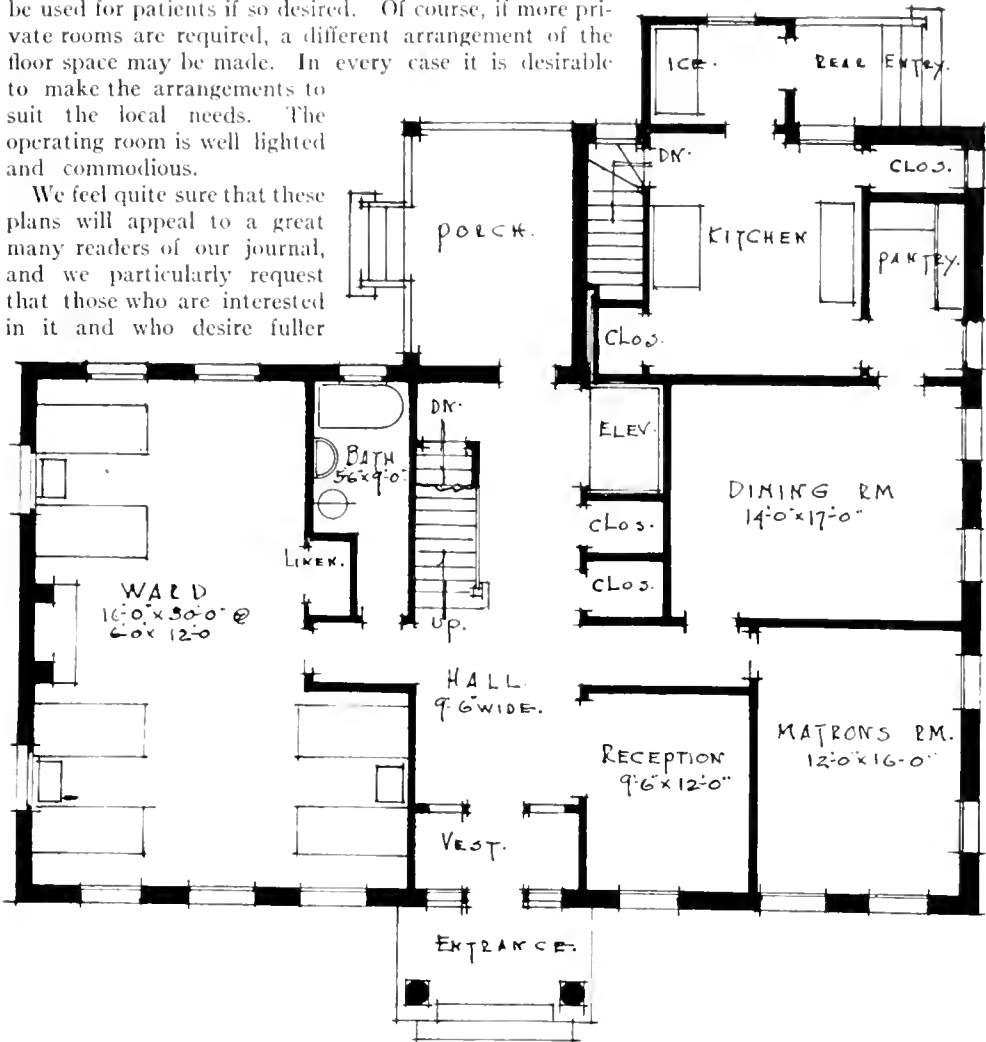
PLANS FOR A SMALL HOSPITAL

From time to time we have received inquiries from readers of CLINICAL MEDICINE as to where they could secure plans for a small hospital, suited to the needs of small towns or for a physician or a group of physicians who desire to build an up-to-date private institution. At our suggestion, Mr. Arthur H. Busch has made drawings and prepared plans for such a building. We reproduce herewith a sketch of the completed building, with floor plans. This building may be built of brick, fireproof tile, or cement, and even of wood, although the more permanent material is greatly to be preferred. As will be seen, provision is made for a well-lighted, well-ventilated, and modern institution.

There are two six-room wards, one two-room ward, and two other rooms which may

be used for patients if so desired. Of course, if more private rooms are required, a different arrangement of the floor space may be made. In every case it is desirable to make the arrangements to suit the local needs. The operating room is well lighted and commodious.

We feel quite sure that these plans will appeal to a great many readers of our journal, and we particularly request that those who are interested in it and who desire fuller



First Floor Plans of Model Hospital

details will communicate directly with the architect, Mr. Arthur H. Busch, 1306 Gregory Ave., Wilmette, Ill. Mr. Busch has had experience in the planning of hospitals and knows just what is required in an institution of this kind.

In making plans much depends upon the care with which all the details are attended to. It is not sufficient to have a rough general scheme as to walls and partitions. Materials must be studied; the problem of ventilation must be taken care of; floors, walls, plumbing, and lighting are all of the utmost importance, and must be made modern and sanitary. The small expense involved in the employment of an architect he can often save you several times over; and you will be

sure when you get through, providing an expert of this kind is employed, that you are getting what you want, and in many cases you will be spared a very considerable initial expense through his expert advice. We advise everyone interested to communicate with Mr. Busch.

Next month Mr. Busch promises to give plans of a physician's bungalow home of small cost. This will undoubtedly appeal to a great many of our readers.

CASES TREATED WITH BACTERINS

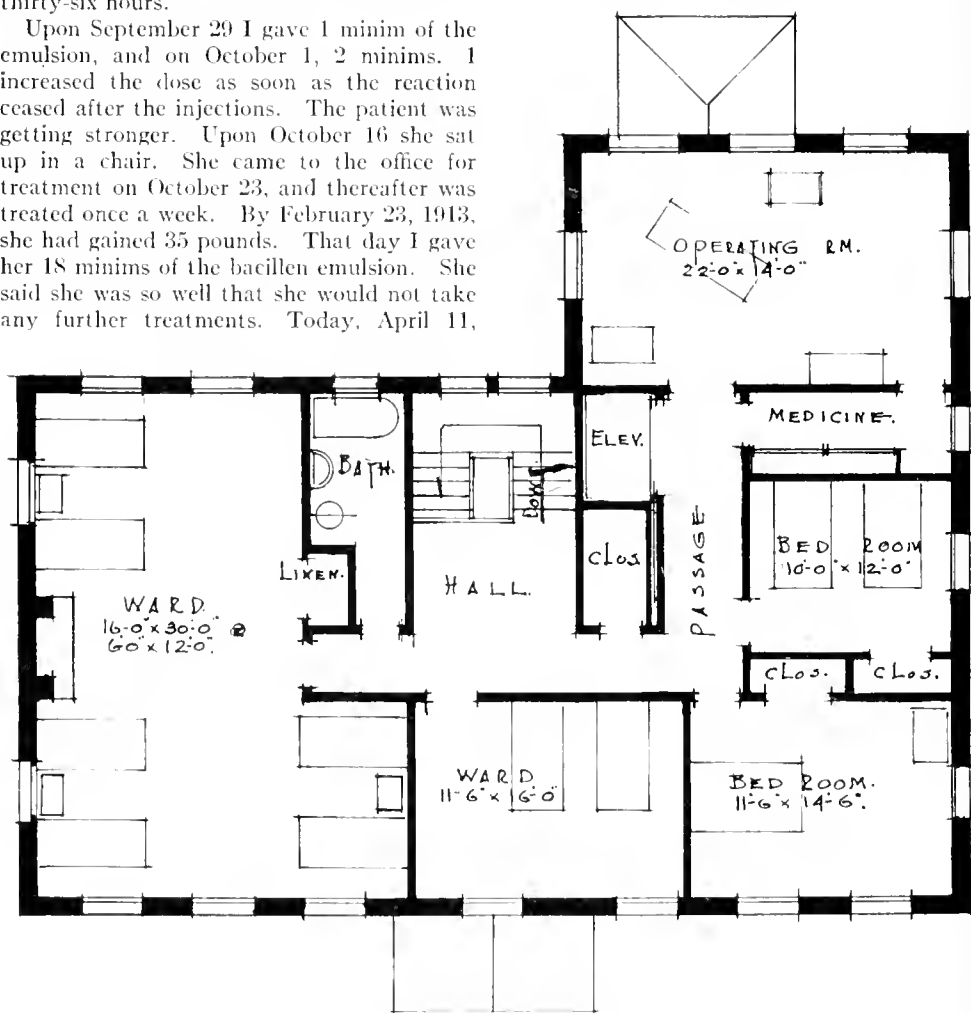
I wish to cite a few cases to illustrate my experience with bacterins and other biologic products.

Case 1. *Tuberculosis*. Hazel E., age 16. Family history of tuberculosis. She had been treated, by a brother physician, for typhoid fever for six weeks before the writer was called into the case. I will not give the clinical findings, except to say that tubercle bacilli were found in the sputum, and the case finally diagnosed as one of miliary tuberculosis. The patient had been in the hospital and was brought home to die. At that time (September, 1912) I had had no experience at all with tuberculin, but decided to try them, since the case seemed hopeless in any event. The patient was so weak that only 1-2 minim of Mulford's bacillen emulsion was used, this being given on September 27. A violent reaction occurred in a few hours. The temperature was high, and there seemed no hope at all. However, the reaction subsided in thirty-six hours.

Upon September 29 I gave 1 minim of the emulsion, and on October 1, 2 minims. I increased the dose as soon as the reaction ceased after the injections. The patient was getting stronger. Upon October 16 she sat up in a chair. She came to the office for treatment on October 23, and thereafter was treated once a week. By February 23, 1913, she had gained 35 pounds. That day I gave her 18 minims of the bacillen emulsion. She said she was so well that she would not take any further treatments. Today, April 11,

1914, she is well, and is to be married in June. She has passed a successful examination for life insurance.

Case 2. *Tuberculosis*.—Mrs. H., suffering from pulmonary tuberculosis, both lungs being involved. May 13, 1913, the Moro test was positive and tubercle bacilli were found in the sputum. She was given 1 minim of bacillen emulsion (Mulford) as first dose; May 21, 2 minims were administered, and this treatment was continued weekly thereafter. By September 24, she had gained 18 pounds. On that day I gave 16 minims of the emulsion. She was unable to continue treatment for financial reasons, and was sent to a state institution. The examining physician told her that the left lung was healed entirely and the right one partially. She was asked what treatment she had been receiving, as the



Second Floor Plans of Model Hospital

improvement had taken place within the preceding three months. At last reports she was still improving and "getting fatter all the time."

Case 3. *Rheumatism*.—Mrs. M., age 58, farmer's wife, suffering from chronic rheumatism. She had taken medicine until her stomach would not retain the lightest diet. I used strepto-pneumo bacterins (streptococci and pneumococci) at 5-day intervals, beginning with 100 million of the former and 50 million of the latter, and gradually increasing the dosage. The patient improved. I administered the bacterin at weekly intervals for six doses. At the end of that time the patient was able to walk upstairs—a thing she had not done for more than two years. The first treatment had been given here in bed. After a year and a half there was no return of the trouble.

Case 4. *Typhoid fever*.—Miss B. Widal positive. I gave her a dose of typho-bacterin, 125 million killed bacteria, and one day after the reaction from this had ceased repeated the treatment. Dosage was gradually increased. At the end of two weeks of this treatment she was sitting up and quarreling with the doctor for not allowing her to eat more. Before giving the bacterin I gave 5 grains of calomel at a single dose, followed by a laxative saline; the triple sulphocarbolates were employed as usual.

Case 5. *Typhoid fever*.—Miss G. Widal positive. Doctor nervous. He had ordered and paid for tickets and steamer passage, his vacation being only ten days away. The patient had a temperature of 103° F. when first seen in the evening. Typhoid bacterin was given. Next day at the same time the temperature was 99° F., and the second day it was 101° F. Then another injection of the bacterin was given and the temperature fell to 98.6° F., then rose to 100° F. A third injection was given, after which the temperature remained at normal and the patient was up when the case was turned over to another physician. The temperature never rose above normal after that.

Case 6. *Typhoid fever*.—Mr. W. Widal positive. Temperature (evening), 106° F. A typhoid bacterin was given and the temperature fell to 99. The next day it was 104° F. Another injection of the bacterin, and the temperature became normal, but the next day rose to 102° F. A trained nurse, a relative of the patient, informed the family (and the doctor) that some physicians had told her vaccines caused tuberculosis. As there was a tubercular tendency in the

family, thinking to protect myself in case something should occur, I allowed myself to be influenced by her remark, although the patient said he was feeling fine, and really was better. In two days the temperature was up to 105° F. and the patient was delirious. He was in bed fourteen weeks, with the worst case of typhoid fever it had been my experience to encounter. He finally recovered, but I now regret that I did not use the vaccine further.

Case 7. *Acne*.—Mr. F. He had suffered with acne facialis for fifteen years; had consulted specialists in skin diseases, but without improvement. I gave staphylo-acne bacterin at five-day intervals. He was sent south by his employers, where he remained six weeks. He wrote me that the improvement continued. On his return I gave him ten doses, at five-day intervals, and then discharged him. After nine months there is no sign of a return of the trouble.

Case 8. *Acne*.—Mr. M. His face was a mass of bleeding pustules, covering both cheeks, chin and forehead. I gave staphylo-acne bacterins at five-day intervals, but improvement was only slight. I then shortened the intervals and used the leukodescent lamp (blue), when there was marked improvement. The patient is still under treatment.

Case 9. *Mixed infection*.—Mr. C., railroad man. Received slight wound in knee, and went to the company's doctor. I was called in two days later. Found him in great agony; temperature 104° F., pulse 140, tongue coated; delirium at times, and prostration. The leg was swollen and discolored to the hip. I removed the sutures, and a stream of pus a foot high spurted out. The wound was treated surgically for several days, and finally reduced to a suppurating pocket at the joint. No measures employed seemed to influence this pocket. A surgeon in consultation advised opening and draining the joint. Instead, a staphylococcus mixed bacterin was given at three-day intervals, in increasing dosage. The wound healed rapidly after four doses. Four additional doses were then given, and the patient was discharged. There has been no sign of a return of the trouble after a year.

Case 10. *Epilepsy*.—Mrs. D., epileptic for 20 years. She had tried doctors, surgeons, having the ovaries removed, and Christian science. She had been having two and three attacks a week. I administered dicrotalin 1-150 grain. She was seized with a more violent attack than ever. I continued using gr. 1-150 of the snake venom until the seizures

ceased, and increased the dosage until she is now receiving 1-12 grain. There have been no attacks in two months.

Personally the writer has great faith in the bacterin method of treatment. My failures, as well as those of others, have been due to improperly selected cases and an imperfectly developed product. Bacterins will not cure every case, neither will internal medication. The two methods should be associated. It is my firm belief that this line of treatment has come to stay, and will be more reliable as the manufacturers understand the subject more clearly and put out more nearly perfect products.

As the editor requested papers to be as brief as possible, I will not mention my successes and failures with pneumococcus bacterin, with coli bacterin, with pertussis bacterin, and my invariable failure with the Neisser bacterin. It is sufficient to say that my experience has convinced me of their value.

I have had no experience with autogenous bacterins.

SAMUEL J. COPELAND.

Indianapolis, Ind.

PARCEL POST AND POISONS

I want to express my hearty agreement with the article appearing in the March issue of *CLINICAL MEDICINE*, on the Postmaster-General barring from the parcel post the sending of poisonous drugs. This action by the Postmaster-General is going to impose numerous hardships upon the profession in general, especially those physicians located away from a railway station or express office.

Thus, for instance, I myself am fourteen miles from one and ten from the other railroad station, receiving nearly everything by parcel post. So, what am I to do? I use no more of the powerful anodynes in my practice than I am compelled to, nor do I carry any narcotics in any great quantities. My stock is limited to a few hypodermic morphine tablets and such other drugs as I am compelled to have with me in cases of emergency. I cannot carry a full drugstore, and I am compelled to telephone daily from ten to twenty prescriptions to the nearest drugstore to be filled and sent out by mail to my patients, all of whom live on rural routes.

Now, however, if my prescription happens to contain a small amount of an opiate in any form, it cannot go by mail. Then what am I up against? It is a case of someone driv-

ing eight or ten miles to the drugstore to get my prescription filled. Should I myself happen to overlook some drug I might need and could have sent quickly by mail, I shall instead, be obliged to order it to come by the inconvenient express and then drive ten miles to the express-office. These facts, put in as few words as possible, illustrate the exact conditions to which this new postal ruling exposes us.

Frankly, this ruling is a bad one, and all physicians should get busy at once with a petition to the Postmaster-General, showing him, from a professional as well as the business standpoint, the great inconvenience this will cause us. It may be that he did not once consider these conditions when he made the ruling, but I feel that, if we hasten to present this matter to him in the right manner, he will see the grave error and modify his ruling.

Hence, I suggest that the editorial staff of the journal draw up a letter setting forth the exact conditions as they are and the manner in which this ruling will handicap us, and present this to the Postmaster-General. Also, I should like to hear from other physicians on this subject and what they would recommend to be done. So, then, let's get to work on this, for it is an important factor in the practice of many of us, and one that should be remedied at once.

HAROLD SAMPSON.

Wilder, Idaho.

[This is a sample of a large number of letters received, all dealing with this poison-order. We have already presented the situation as clearly and forcibly as we know how to the Postmaster-General, and so have many other physicians, also numerous manufacturers and druggists, but thus far without redress. The trouble seems to be that in a court decision, made in St. Louis last July, it was decided that no discrimination as regards shipments of poisonous drugs by mail could be made in favor of druggists or physicians, as compared with laymen. The postal authorities, therefore, determined, it seems, to close the mails to all "poisons"—but, no one in authority has come forward with a definition for the word "poison."]

Apparently the only way to secure relief is through appropriate legislation by Congress. Therefore, we urge every physician to write his Representatives, urging them to take up this matter and to evolve some method which shall insure us the use of the mails for the tools of our trade, and on reasonable terms.

Meanwhile, do not let the Postmaster-General forget that the doctors are not getting a "square deal"—and that they know it. [Ed.]

THE OVERLAND CAR PLEASES

I am driving an Overland touring-car, and my expense is lower than on other cars I have driven, which were much lighter; having been, for the last year, about 6 1-2 cents per mile—this including insurance and every cent of expenditure. This is the second year that I am running it. The first year's expense would be less, for there would not be much tire expense. I use rough-tread tires, and never use chains. A light car rides hard, and the shaking or vibration causes backache. My weight is 230 pounds, and I know from experience that a light car is a man-killer.

With the Overland car I never have had any trouble from backache or lameness. The Overland starts equally well in cold and in warm weather, while the motor does not require as much overhauling as those of others I have driven. The clutch on this car has run two years without being touched. My tires run from 5000 to 8000 miles. I shall buy another Overland when this one wears out.

HARRISON G. PALMER.

Detroit, Mich.

MAKING A LIVING, AND HIGH TONE IN THE PRACTICE OF MEDICINE

Today we frequently hear about "impoverished" doctors and the "difficulty to make a living;" we also hear about efforts to solve the problems involved in various ways, some of which without doubt are practical, but others somewhat quixotic, taking society as it now is. To my mind, the matter finally resolves itself into the question of "*trade or profession.*"

If profession be admitted, as it surely will be by all except a limited few of the unregenerate or ignorant, the query remains, "Should we practice it primarily for lucre or for honor?"

My plea is very clear and forcible. Medicine properly appreciated and practiced is the noblest of all earthly callings. When I say properly understood, I mean simply that it should be appreciated and followed closely throughout life, so that more than a competency in pecuniary honorarium cannot and should not be hoped for, or even desired, so long as the spirit of self-sacrifice and always

doing by others as we would be done by prevails.

No physician worthy of the name should even give other advice or example than that which breathes the highest rectitude of purpose, and this is only to follow, as well and as far as may be, the essentials of Christ's teaching, and has nothing to do with humanly manufactured sects or creeds.

BEVERLY ROBINSON.

New York, N. Y.

RESUSCITATION OF THE NEWBORN—QUININE RASH

I call mine a new method of resuscitating the newborn, for the reason that I have been unable to find anything like it described in any of my textbooks. I will be as brief as possible in my explanation.

When, after the delivery, the umbilical cord is tied, have a quilt spread upon the floor, so as to afford plenty of room. Lay the baby face downward, grasp its feet with the right hand and slip the left hand under the chest, with your fingers extending on each side of the child's neck. Now lift the baby (keep it clear off the floor during the entire procedure), and raise its feet up almost perpendicularly, letting its head hang downward. Then slowly lower the feet and bring the child's body into the horizontal position; at the same time flexing the legs and thighs upon the abdomen and make pressure so as to force out the air in lungs. Repeat these movements at the normal rate of breathing—about thirty to the minute.

The advantages of this simple method are these: (1) the blood is kept in the vital centers of the brain; (2) the tongue drops (by gravity) and the glottis is opened, thus allowing a free passage of air upon inspiration; (3) it enables any mucus present to drain from the trachea and bronchi.

In extreme cases, I do not confine myself to this method alone, but, occasionally, change to some of the other known ones. Then, of course, I have two basins of water handy, one hot and the other cold, and give the baby a frequent "dip" into each one.

Perhaps it will not be amiss to say, "Don't give up the baby too soon." I have worked with some of them for as long as nearly an hour before they would get all right; and it means work, sure enough.

Someone has said that quinine given hypodermically would not produce a rash—but it will. Two or three years ago a brother of mine injected 1-2 grain of quinine and urea

hydrochloride into a robust man, and in less than two minutes an intense urticaria broke out. Then the man told us that quinine always would affect him that way.

L. J. GRAVES.

Leighton, Ala.

ANENT THE EXPULSION OF PINWORMS

The article in the February CLINIC describing a novel inunction treatment for pinworms, is very interesting, but the method pointed out for the expulsion of these troublesome tenants is a rather roundabout way, when their ejection can be accomplished by a much shorter route. What I refer to is, on the one hand, the administration of two or three successive doses of the old-fashioned "elix. pro." (tinctura aloes et myrrhæ), or else the more direct method advocated by Prof. James R. Wood, whose favorite remedy was a rectal suppository of pulverized socotrine aloes, which will cause these obnoxious intruders to vacate the premises without even waiting for the benediction.

I like the "short-steps," which appear every now and then in the columns of your valuable journal. They reach the meat in the coconut without unnecessary circumlocution.

GEORGE D. STANTON.

Stonington, Conn.

IS THE DISPENSING DOCTOR LARGELY RESPONSIBLE FOR THE TRAFFIC IN NARCOTIC DRUGS?

It having become the fashion, of late, on the part of certain interested persons, to make the charge that the dispensing physician is largely concerned in the distribution of narcotic drugs to habitués we determined to ascertain the truth of the matter. As we knew of no man who is better informed about the habitual users of opium and other similar drug users we wrote Dr. George E. Pettey, asking him to tell us about his own experience with absolute candor, promising to withhold his letter from publication and consider it confidential if he preferred that we do so.

Dr. Pettey is the superintendent and owner of one of the largest, if not the largest, institutions in the country for the treatment of narcotic habitués. At one time he conducted a chain of these institutions, situated in all sections of the country, from Atlantic to Pacific, so his observations are by no means local. He is the author of the largest and

latest book on the subject, "Narcotic Drug Diseases and Allied Ailments," published by F. A. Davis Co., Philadelphia. If any man in this country knows what he is talking about, Dr. Pettey does. His reply to our letter follows:

To the Editor of Clinical Medicine.—I am in receipt of your letter and in reply will say that I am probably in as good a position to know the facts in regard to physicians supplying drug habitués with their drug as any man living and I am certainly surprised at the contentions of the N. A. R. D. They must be extremely hard pressed for an argument.

During the last fourteen years I have personally supervised the treatment of about 4000 drug patients and have been consulted by fully that many others whom I did not treat. In this entire number I do not believe that there were exceeding a dozen who obtained their drug supply through a physician. Physicians are to blame for getting many of them started on a drug, but it is an extremely rare thing for a physician to continue to supply it to them. As a rule they fall out with the physician because he tries to keep them from getting it.

You need not hold this as confidential unless you wish to do so. You are at liberty to use it as you see fit. It is the truth and I am never afraid to tell the truth.

GEORGE E. PETTEY.

Memphis, Tenn.

[In so far as any physician is responsible for getting a patient started in the use of morphine (unless the patient is suffering from an incurable chronic and painful disease) he is culpable, and should be made to realize that fact. But, I believe I do not exaggerate in making the statement that it is the prescribing physician who makes the largest percentage of "drug-fiends." He loses control of his patient—loses control of the drugs administered. Realizing this fact, there are thousands of doctors who ordinarily write prescriptions for most of the remedies which they employ but who insist—quite properly we think—that narcotics should as largely as possible be given by their own hands. The hypodermic syringe should never be intrusted to the patient himself.

The narcotic evil is a terrible one. We should realize our part in the responsibility for its existence and should use every reasonable effort to put an end to it. But we should vigorously oppose every effort to take the personal administration of drugs of this class out of the doctor's hands in order to give the

druggist a profitable monopoly in handling them. And saying this we gladly testify that we believe in the druggist—believe he has an important part in the economics of medical practice and should be taken into an offensive and defensive partnership with the doctor whenever the interests of both parties and the public can be best subserved by so doing.—Ed.]

MORE HEAD-LICE CURES

Allow me to suggest mercurial ointment, Fowler's solution, and incineration for eradicating lice on the head. Fowler's solution will kill lice almost instantaneously. Saturate the hair with it. Two hours afterward anoint the scalp freely with mercurial ointment. Then burn all the clothing previously worn by the victim—and away go those lice. (In our local jail we use a spray of what they call "kreso dip." The jailer declares that it destroys lice, bedbugs, and "sich.") But for headlice the treatment described above will give satisfaction. Try it.

Remember, though, that Fowler's solution will blister the scalp if not followed by the ointment. The ointment can be left on for several hours without danger; but if the application is persisted in, it will salivate. However, the lice can be destroyed without its continued use. Nits do not hatch out in mercurial ointment. Coal-oil (kerosene) is not dependable.

W. P. HOWLE.

Charleston, Mo.

MEDICINE IN THE FUTURE. MALARIA

I notice, in the January issue of *CLINICAL MEDICINE*, Dr. John B. Murphy's prophecy as to internal medication, and not surgery, being our mainstay in the future. If you will turn to Wyeth's "Surgery" of about 1890 (I forget the date), you will find where that author wrote somewhat as follows: "The day is not far distant when an amputation of a limb will be almost a curiosity, for, with our present advancements in antisepsis, it will be resorted to externally, internally, and eternally." These words are not quoted literally, but they give his meaning very much as Doctor Murphy has predicted.

By the way, please, look up the article on page 81 by Dr. S. M. Waller, and observe the contradiction in paragraphs numbers 4 and 5: (a) "If the patient reaches the hospital in a

reasonable time after the onset, he is treated as follows. To give quinine, we kill our patients." (b) "When a physician is consulted after the onset, he (the patient) is given hypodermically sometimes 60 grains of quinine in thirty-six hours." Now, doctor, which paragraph are we to adhere to?

I practiced for twenty years in the swamp belt of South Carolina, where malarial hematurias of a pernicious type prevail. I knew of one case, at Holly Hill, that of a merchant named Clark, who was up attending to his duties until 11 o'clock on Saturday evening and was dead at 11 next morning.

I cured several severe cases by not giving any quinine, but depended upon 10-grain doses of calomel every hour till four doses were taken; then, after the liver and kidneys had freely responded, and the urine showed perfectly clean, I gave quinine. The hypsulphite of sodium and Warburg's tincture I used, getting this suggestion from one of your alkaloidal magazines.

I rejoice in your success, you certainly get out the very best medical journal extant.

W. TAYLOR EDMUNDS.

Ridgeway, S. C.

[Doctor, there is no inconsistency in Doctor Waller's method of treatment. He does not use quinine in malarial *hematuria*, but he does use it in other forms of malaria, as you will see if you will read again the paper you quote.—Ed.]

ABORTION - PREGNANCY - COUNTY SOCIETIES

The editorial in February *CLINICAL MEDICINE* is true, and I not only fully agree with the statements there made about emmenagoges, but wish to emphasize them.

There is no known medicinal agent that will cause a resumption of the menstrual flow, in other than a physiological manner, without entailing extreme danger. I speak both as physician and as pharmacist. It is an accepted truth, however, that, with mere nominal regulation, there are being sold numberless agents designed to "regulate" women. Some of these are inert and straightout fakes; others contain one or more of the so-called emmenagog, or oxytocic, drugs.

Not only are there an enormous number of drugs easily obtainable, but anyone can buy at a drugstore or elsewhere, for supposedly legitimate purposes, one of the instruments or

simple appliances so often resorted to by women themselves, as well as by a certain class of midwives possessed of about the same accurate knowledge of anatomy that a hog has of the Mosaic Dispensation or a negro bootblack of the recent revolution in chemistry from the ionic hypothesis.

Now add to these facts the verity that until the very recent discoveries of Abderhalden—now verified by American investigators—of the blood stream, and accepted by the profession as proven—we have had at our hands no means of diagnosing pregnancy with certainty before distinguishment of the fetal heart sound; the latter itself at times a hard matter even when the woman is within the bounds of a physiological condition. In diseased conditions, especially when ballottement can not be accomplished as a confirmation, even the best of us are more or less uncertain at times. Good ears, an educated finger, and exhaustive technical knowledge can be at fault in a fleshy subject with pelvic inflammatory conditions. This, even were not the possible presence of extrauterine pregnancy as well as neoplasm always a factor to be considered.

To any or all of these possible complications, suppose your patient makes the statement that her menstrual flow is normal and has been on time. All physicians know that any kind of statement can be expected from a woman with a soul filled with dread of her sin—indiscretion, if you will. Most women have a very well defined idea of what to expect at the hands of society if they are discovered, in fact, most of them know what they would do as social units, themselves, were another the offender.

Suppose the woman knows, as she probably does, that you do not look upon her necessities as she does and would absolutely refuse to "bring her around." A state of mind has been reached where, if her hopes of getting desired results through misrepresentation are not brought about, she is apt to have other recourse. You have a dangerous patient, and have an excellent chance of getting the blame for a case of septicemia or other serious manifestation, of which you are as innocent as the unborn she would destroy. To the above combination, we might suggest adding the possible guilty lover, anxious to escape his own responsibilities. In the majority of cases of this kind, the single are involved.

The picture is not overdrawn in many cases, and the lesson is—"Look out, Mr. Doctor."

If you have a patient whom you suspect of

pregnancy, always exercise the utmost caution. Do not be afraid to call consultation. If the woman is single, do not treat her unless you have a member of the family present, unless circumstances are unusual and none can be there. I should not consider a husband, anxious perhaps to escape his responsibilities as a father, as filling the requirements; better a maiden aunt.

The Abderhalden test is becoming available and doubtless every practitioner will, ere long, take advantage of it in many cases. Do not forget that it is now an accepted thing and as reliable as a Widal test for typhoid fever; that is, after two and a half months—and eventually it will probably be dependable earlier. Although I have seen nothing in the literature taking up this phase, I believe it should be an aid in the always serious problem of extrauterine pregnancy.

Above all, when called to a case of abortion where you are not familiar with every circumstance of the case and its entire history, do nothing without a consultant. Violate this rule only when hemorrhage or other condition threatening the immediate safety of the patient requires.

Finally, let your professional conduct always be such that it frees you from any suspicion of wrong intent in any thing whatsoever. The best way to accomplish this is, to be a member of your local society, to attend its meetings, and be known for what you are among your fellow practitioners.

While not starting this paper with the intention of getting upon the subject of the belonging to your medical society, I say, Do it. If you happen to be the only one in your vicinity who belongs to a particular school of medicine, let it make no difference. We all have the same anatomy, physiology, and chemistry, and are progressing together on therapeutics; and all of us are being taught by the men of the microscope and of the chemical laboratory things of which we did not dream. All of us are working for the same end—perfection of our art.

If it be permissible for one not of the Homeopathic branch, I will quote, from memory, a sentence in the "Organon of the Art of Healing": "The sole and only excuse for a physician's existence is, the cure or alleviation of disease." Not verbatim, as the "Organon" is not at hand. If any Homeopath wishes to make critical correction, he may; however, I will here state that I do not make accusation that Samuel Hahnemann said that all diseases were caused by the "itch," but rather that, in his theory of

"psora," he reached ahead of his time and should have been at work now with a high-power microscope and the modern staining-media. Sam had the bacterial idea ahead of his time.

I think the modern medical man in any medical affiliation is past criticizing Hahne-mann, Schuessler, Beach, Thompson or any other who departed from the accepted in his search for more light. We are daily departing from the accepted, else yellow-fever would still be a horror and modern sanitation a farce.

A. L. NOURSE.

Sawyer-ville, Ala.

OUR LONDON LETTER

Surgeon-General Gorgas has paid us a visit recently on his way back from Rhodesia, where he has been inspecting the malarious districts in the Mazoe district. He was accompanied by Major Noble and Doctor Darling. The papers have given ample recognition to the great scientific achievements in Havana and Panama, but Gorgas himself has received what undoubtedly will be more gratifying to him—a warm and appreciative welcome from the cream of the British medical profession. On March 19, he was entertained at luncheon by Sir Starr Jameson ("Doctor Jim," of the Jameson Raid) and the directors of the British South Africa Company, and the same evening he and his colleagues were guests of honor at the mess of the Royal Army Medical Corps, at the Royal Army Medical College, Milbank. The Director-General of the British Army Medical Service presided, and among the distinguished guests present were Surgeon-General May, Director General of the Royal Naval Medical Service, Sir William Osler, Major Sir Ronald Ross, and Professor Martin of the Lister Institute of Preventive Medicine. About eighty members of the Royal Army Medical Corps were present.

On March 23, Doctor Gorgas read a paper in the afternoon, before a crowded assemblage at the Royal Society of Medicine, on the sanitary work of the Panama Canal. He described the physical characteristics of the Canal Zone and its former deadly character, and detailed those measures, so well known to you already, whereby one of the most unhealthy regions in the world has been converted into a place where the white man can live and work in a state of health and comfort that compares favorably with most large

cities in the civilized world. His lecture was illustrated by a large number of lantern-slides. An enthusiastic vote of thanks was accorded him.

In the evening, Gorgas and his colleagues were entertained at dinner, at the Savoy Hotel, by the medical profession, a brilliant company having assembled to do them honor. The chair was occupied by Sir Thomas Barlow, president of the Royal College of Physicians, and among the more distinguished guests were the Archbishop of Canterbury, Lord Chancellor Haldane, the American Ambassador, Viscount Bryce (who as Mr. Bryce recently was British ambassador at Washington), and Lord Moulton. The Royal College of Surgeons was represented by its president, Sir Rickman Godlee, who not so long ago was among you at the inauguration of the American College of Surgeons. Other learned societies also were represented by their respective presidents—the Royal Society of Medicine, by Sir Francis Champneys; the Medical Society of London, by Sir David Ferrier; the British Medical Association, by Dr. Ainslie Hollis; the Society of Tropical Medicine, by Sir Havelock Charles; the University of Oxford, by Sir William Osler. Surgeon-General May represented the Navy and Surgeon-General Sir Launcelotte Gubbins, the Army. Others present were: the American consul-general, Mr. J. L. Griffith, Sir William Church, Sir Ronald Ross, Sir James Reid, Sir Watson Cheyne, Sir John Tweedy, Sir J. Kingston Fowler, Sir John Simpson, Sir John Broadbent, Sir J. Rose Bradford, Sir Frederick Eve, Sir Anthony Bowlby, Sir Arbuthnot Lane, and many other of the élite of the medical profession.

The toast of "The President of the United States" was fitly proposed by Lord Bryce, and was responded to by the American Ambassador, which latter said that the promotion of Colonel Gorgas to the surgeon-generalship of the United States army was a good example of President Wilson's quality and method of working. He thanked the British government for the cordial reception accorded to Mr. Wycliffe Rose, the representative of the International Health Commission of America, and for the generous and prompt aid given him in his mission of studying the hookworm-problem in Egypt, Ceylon, and the Straits Settlements.

The Chairman, in calling on Sir Havelock Charles to propose the health of the guest of the evening, gave credit to Sir William Osler for the thought of honoring their eminent guest by a dinner that should be representa-

tive, not only of tropical and English medicine, but also of the English Church and the State.

Sir Ilavelock Charles, in proposing the toast, spoke in the most eulogistic terms of their guest and his great achievements, and prophesied for him a great place in the esteem of posterity. Surgeon-General Gorgas responded in just the sort of genial witty speech that all who know him would look for from his lips on such an occasion. He referred gracefully to the tireless and ungrudging services rendered in the construction of the Canal by the force of 60,000 workmen, of whom, he said, some 45,000 negro laborers from the British West Indies were devoted British subjects and an excellent body of men in every way, even if they were inclined to claim the Canal lock, stock, and barrel. The Canal, he said, would, without doubt, be formally opened next January.

On the following day the University of Oxford conferred upon Surgeon-General Gorgas the degree of D. Sc., *honoris causa*.

The forthcoming meeting of the Clinical Congress of Surgeons of North America, which is to be held in London in the week beginning July 27, under the presidency of Dr. J. B. Murphy, is being eagerly looked forward to and prepared for. The Chairman of the Reception Committee is Sir Rickman Godlee, and the honorary secretaries are Mr. H. S. Pendlebury and Mr. Herbert J. Paterson. Special clinical programs are being arranged at all the large schools and general and special hospitals. The headquarters will be at the Hotel Cecil. Among the foreign surgeons who have consented to deliver addresses, are Professor Von Eiselsberg, of Vienna, Professor Tuffier, of Paris, Professor Schmiegelow, of Copenhagen, and Dr. J. M. West, of Berlin.

Some remarkable statistics relating to the prevalence of venereal diseases in Great Britain were given by Dr. Douglas White before the Royal Commission on Venereal Diseases at its twenty-sixth meeting recently. The speaker estimated that there were yearly in London about 122,500 fresh cases and, in the same period, 800,000 cases in Great Britain. Of the 800,000, approximately 114,000 cases would be syphilis and 686,000 chancroid or gonorrhea. The total number of syphilitics in Great Britain he placed at about 3 millions.

The pitiable credulity of otherwise sensible

people in regard to quackery has received fresh illustration recently in London by the revelations that have been made at the trial of a quack cancer curer. When one patient who had consulted him, without getting relief, told him she had been advised by a surgeon to have an operation done, the quack scoffed at the idea and told her that he had been a doctor himself, but had lost his degrees because of drunkenness. In spite of this, the patient's husband took her to this quack for treatment and found him intoxicated.

Such a trifle, however, mattered little, for the assurance that he was always more skilful when in that condition prevailed and treatment, which consisted of the injection of some fluid (said to be a herbal extract) into the growth, was undergone. After giving his injections, the quack always took the basin away, and presently returned with something in a bottle, which he assured the patient was the cancer that he had just removed.

It was shown at the trial that one of these supposed cancers was a piece of the lining membrane of a pig's entrails, and that he had been in the habit of providing himself with "cancers" from the pork-butcher's regularly. The statement that he had been a doctor but had had his diplomas taken away was untrue.

Mr. W. Bruce Clarke, senior surgeon to St. Bartholomew's Hospital, London, died on Saturday, March 28, at Eastbourne, a fashionable seaside resort on the south coast, at the age of 64. He was educated at Harrow, and proceeded thence to Oxford University, where he was graduated with first-class honors in Natural Science and took the M. B. degree in 1877. He also gained the Burdett-Coutts university scholarship. He became a member of the Royal College of Surgeons in 1877 and a Fellow in 1879. He was a member of Council and of the Court of Examiners of the Royal College of Surgeons, and examiner in surgery to Oxford University, and to the Conjoint Examining Board of London. In 1886 he obtained the Jacksonian prize for his essay on the diagnosis and treatment of diseases of the Kidney amenable to direct surgical interference. He published a Handbook of the Surgery of the Kidneys in 1911 and contributed freely to the medical press. He was at one time surgeon to St. Peter's Hospital and to the West London Hospital.

"M."

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

WOMAN is truly always interesting herself, and is able to make things interesting for us men, but those who have given the subject any study will admit that, when it comes to considering her from the standpoint of her diseases, her disposition, her impulses, we know but little about her. Indeed, the majority of us are like the man whose little boy said to him, "Papa, did you know mamma long before you married her?", and who gave for answer: "No, my dear boy, I did not; and we have been married a long time, and I don't know her yet."

But, however little we know of woman's makeup, her possibilities, we do know that all of the best interests of humanity, all that pertains to the well-being, the perpetuity and continuity of the race is centered in women. And so, we, as physicians, should do what we can to preserve woman and her health.

Medical men and physiologists know that with the continuing of the species man has but little to do. He may furnish the fructifying force, but woman furnishes the material elements that go to build up the successors in the evolution of our race. In other words, the vital spark that woman receives is microscopic and infinitesimal; she it is that furnishes the life-blood that permits growth, development, and the perfect new being. The product that hath been blood of her blood, flesh of her flesh, and bone of her bone is as much a part of her as either half of her body would be.

When we realize this physical fact, we realize that woman makes up ninety percent of the whole scheme of life; and, surely, it is our duty to guard and protect her to the fullest, and to help her to work out to the best advantage her own salvation—for it is our salvation, too.

We believe that woman is endowed with the same faculties as is man; nevertheless, some faculties are more developed in man, while others are more dominant in woman; but, in the aggregate, woman, we feel, is so

formed as to be dependent upon man. And this dependence, I think, is so clearly indicated in woman's entire organization, and is so generally admitted, that the woman who is considered the most fortunate in life has never been independent, having been transferred from parental care and authority to that of a husband.

What, then, is the part destined to woman? The answer is clear. Her destiny is not only to be the matrix in which humanity is cast, but also the *natrix*, the chief nourisher and supporter of mankind, whether this be to a helpless infant eagerly seeking milk at her breast or to suffering humanity requiring love's watchful tenderness to restore it to health.

Thus, when we speak of woman's proud position in the world, it is not comprised in the mere facts of conceiving, bringing forth, nursing, and fostering the child; but she is the mother of its intellect as well as of its body, and has to preside over its dawn, so as to enable it to remember itself, and to disclose its latent powers by the means of language. She is, likewise, the mother of the moral man, and has to call forth that moral "light which every man brings with him who cometh into this world," and to develop sentiments which, if fostered in early life, will never be eradicated.

But, all women are not destined to be mothers; and it would be taking a very narrow estimate of the admirable utility of woman in the circle of society to fancy her useless unless she is a mother. As among bees there is a large percentage of imperfectly developed females, called laborers, nurses and, improperly, neuters, which are indispensable to the well-being and multiplication of the humming communities, so with us, that large proportion of women who have not been called upon to be mothers are, nevertheless, most useful to the human race, to whose many wants they minister and whose weakness they strengthen, the milder influence tempering and softening

asperities of the stronger sex. For this reason, doubtless, women have been endowed with a greater vital tenacity than men, and for the same reason there always are more women than men in the world. When a nation is destined to dwindle and become extinct, the number of women becomes less than that of the other sex.

For a few months I purpose to write on the subject of female hygiene; the diseases to which women are more subject than men; how certain diseases affect men and women differently; and observations on how to treat the female patient.

Having to deal with many hysterical women, I will begin with that complaint so peculiar to women—hysteria; for, although men often are somewhat similarly affected, the disease, as affecting the male sex, may be ignored.

Hysteria seldom occurs except during that period of life in which the uterine functions are in an active condition, or, from the age of thirteen to that of forty-five or fifty years; and, when it does exist, there frequently is found some derangement of these functions.

How many of our patients are subjects of hysterical complaints, how many diseases are influenced by hysteria, and how often does hysteria simulate certain organic diseases.

Almost every organ in the body of a hysterical woman may, from trivial causes, take on the form and appearance of real organic disease, while in reality no such disease exists; the whole of the symptoms being a more or less perfect imitation of the real disease, taxing the skill and experience of the physician often to the utmost to detect the difference.

In my work at Mudlavia, I see quite a number of "hysterical joints." Sir Benjamin Brodie has said that, in the higher classes of society, four-fifths of the female patients who are commonly supposed to have some disease of the joints labor under hysteria, and nothing else.

Not long ago I had under my care a young lady who suffered from severe pain in her knee and hip. At times she could not stand on the affected limb nor bear to have it moved. For a while I was led to believe there was ulceration of the hip-joint; but, noticing that the more attention I paid to the case, the worse she got, I finally made a diagnosis of hysteria, and under treatment suitable to

hysteria the rigid contractions and pains all gave way.

I have seen many women with hysterical spines, complaining of pain and tenderness in their backs and weakness in their lower extremities. Many women unnecessarily have been confined for months, and years, even. I have had two cases, one a young unmarried woman and the other a man thirty-eight years old, a minister, both of whom had been confined to their beds—one for two years, the other for three years—for supposed spinal disease, but who, in reality, had nothing the matter with them but hysteria. I cured them both, largely by mental healing.

Such patients as these have a peculiar mental condition. After lying upon their backs for some time, they are unable to stand or walk, simply because they think they can not. The instant they make a *real bona-fide effort*, the moment their faith and belief in their ability to walk reaches a certain point, they not only *can* but *do* use their limbs, and a cure is effected.

The young lady referred to had been made worse by her mother's solicitude; the mother believed she had a serious spinal trouble, waited upon her constantly, and kept her flat on her back in bed. She lost all power of her legs, but was well nourished, for her appetite was good. I took the patient away from her mother and her home environment and placed her in a hospital among perfect strangers. Then, by suggestion, firmness, and the aid of an intelligent, competent nurse, she was taught and made to walk.

The young woman at first declared she could not stand up, to say nothing of trying to walk—that the mere attempt would "kill her." It is needless to say, it did *not* "kill her" nor did she ever once fall as she was learning to walk again, but in a few weeks she was well, and has remained well ever since. A more surprised woman I never saw than was her mother when she met us at the depot on our return from the hospital and saw her daughter step unassisted from the car and walk briskly toward her.

A similar case has been described by Doctor Bright. He was called upon to visit a young lady who had been confined to bed for nine months. If she attempted to move, she was thrown into a paroxysm of agitation and an excruciating agony affecting more particularly the abdomen. She had almost lost the use of her lower limbs, and she and her friends

seemed to have given up all hope of her recovery, but she presented no appearance of visceral or organic disease.

Doctor Bright made a diagnosis of hysteria. She was thought to have derived relief from some stimulating injections and certain pills. As her friends were in moderate circumstances, Doctor Bright talked seriously with her mother, recommending her to substitute water for the injections and bread-pills for those she had been in the habit of using. The mother soon found that these means produced just as tranquilizing an effect upon her daughter as had hitherto been ascribed to the medicine! His visits became less frequent, and after an absence of a fortnight, upon renewing his visits, no change had taken place. He attempted to get her removed to the sofa, but found it impossible; the paroxysm nearly overcame her.

After having watched the case for nine months more and finding no change for the better, he made another call one day. This time the girl's sister met him at the door with a smiling face, and told him that her sister was quite recovered. She then related how, three mornings before, under a deep religious emotion, she had completely recovered all her power! And he found her sitting up working and amusing herself.

In many cases of hysterical joints, where the joint is stiff, bent up and immovable, any attempt to straighten it being attended with great pain, relief may be obtained by pouring a stream of cold water upon the part affected. After the stream of water has been kept up for a while, the patient may complain loudly, but the stream should be continued. Under a continuance of the cold water, the limb trembles, the muscles relax, and the limb becomes lithe, lissom, and manageable. Occasionally the state of rigidity returns, but the application of the cold douche overcomes it—each application becoming shorter in duration than the former, till at length the mere mention of "cold douche" overcomes it, every time, and is sufficient to restore the flexibility of the joint.

Thornton quotes a case, reported by Sir Charles Clark, of a young lady in the highest aristocracy, who was affected with "lockjaw"! She could not open her mouth, either to speak or to eat. He comprehended at a glance that it was a vagary of hysteria, mimicking the real disease. Consequently he placed her

with her head hanging over a tub at the bed side and poured from a pitcher cold water over her head and face; before he had emptied the second pitcher the patient began to scream, giving audible evidence that the "lockjaw" had vanished, never to return while she was under his treatment!

All these pseudo diseases will terminate suddenly, under strong mental impression. The mental condition is so distorted that deception and untruthfulness become the rule. The most disgusting habits are practiced by many of these patients, for no apparent reason other than a wish to gratify a morbid longing for sympathy, commiseration, and notoriety or the indulgence of erotic and prurient ideas.

It is a trick of some hysterical women to pretend they suffer from retention of urine, and that, although the bladder is full, they cannot make water. The daily introduction of a catheter by the doctor suffices to gratify their morbid and prurient feelings. The difficulty will disappear, usually, upon the patient's being left, without pity, to her own resources; still, girls have been known to drink their urine, in order to conceal the fact of their having been obliged and able to void it.

The state of mind evinced by many of these hysterical young persons is such as to entitle them to our deepest commiseration. The deceptive appearances displayed in their bodily functions and feelings find their counterpart in the mental. These patients are deceitful, perverse, and obstinate, practicing, or attempting to practice, the most aimless and unnatural impositions. They will produce fragments of common gravel and assert most positively that they were voided with the urine. Or they will secrete cinders or stones in the vagina and pretend to be suffering from calculous disease. While I was medical superintendent of Alma (Michigan) Sanitarium, I had a patient who, through her urethra, introduced a large quantity of chewing-gum into the bladder, which required an operation for its removal.

Cases are on record where women have simulated suppression of urine and, after swallowing the urine they have passed, would vomit it again, to induce the belief that the secretion had taken place through a new and unnatural channel.

According to Patrick, certain anesthetics are typical of hysteria. First, that in patches, single or multiple, regular or irregu-

lar, without any relation to the distribution of the sensory nerves. These patches may be located anywhere on the body, but their existence frequently is unknown to the patient. The so-called stocking, glove or sleeve anesthesia, that corresponds in distribution to the garment named and stops short of a circular line about the extremity, occurs in scarcely any other disease except in multiple neuritis, and here only in a modified form, the anesthesia gradually decreasing from the extremity of the limb toward the trunk and shading off into the normal. A hemianesthesia, which is limited sharply and exactly by the middle line, especially if it involves the special sense on the same side, is equally characteristic.

Another distinctive manifestation of most hysteric anesthetics is that they do not interfere with cutaneous reflexes and automatic accomplishment. For instance, a woman with total anesthesia of the hand will tie a bow beneath her chin with her usual dexterity. A man with complete anesthesia of the buccal cavity will find no difficulty in the manipulation of the alimentary bolus. These acts would be impossible in organic anesthesia.

A hysterical anesthesia, too, usually is out of all proportion to the paralysis, whereas in organic affections just the reverse holds true, the motor functions suffering more than the sensory. A complete anesthesia of the entire body in a patient still able to walk about is sure to be hysterical, as is also one which varies rapidly in distribution or degree.

Among the anesthetics may be mentioned concentric contraction of the visual field, with inversion of all the fields, which are symmetrically contracted; that for blue being as small or smaller than that for red, while for the normal eye it is distinctly larger. A striking peculiarity of this contraction of the hysterical visual field is that, even when extreme, it does not cause the patient, in moving about, to collide with objects lying outside the hysterical but within the normal field—that is, with objects which he does not see.

Another eye-symptom pathognomonic of hysteria is monocular amaurosis, with binocular vision. Prisms, the apparatus of Bles, and other devices demonstrate that, under certain conditions, the patient does see with the blind eye. Hysteric amblyopia and amaurosis frequently are accompanied by anesthesia of the eyelids and conjunctiva.

A monocular diplopia or polyopia is hysteric, as is also micropsia and macropsia. These, like many other symptoms, may be unknown to the patient and must be sought for.

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Loss of the pharyngeal reflex, tenderness to the left of the cervical spine and of the ovarian region, and what Pitres has called haphalgnesia, are important stigmata. The last is rare, and is an intense hyperesthesia of touch for substances, as brass, for instance!

In hysteric paralysis of an extremity, the various muscular groups are nearly equally affected; isolated paralysis and, hence, paralytic deformities, as wrist-drop and talipes, are of rare occurrence. On the other hand, deformity owing to contracture is frequent. Relaxing the affected muscles by position has here no effect on the contracture. For instance, contracture of the fingers is not relaxed by forcible flexion of the wrist as in organic disease. Hysteric paralysis of the face is very rare, while facial contracture, which may simulate it, is not very infrequent.

DELAYED CHLOROFORM POISONING

The *Paris Médical* for December 21, 1912, abstracts a report by Dr. Carretier, in the *Rennes Médical*, according to which two days after a difficult chloroform anesthesia in a laborer 26 years old (amputation of the finger by disarticulation) icterus became noticeable, together with pain in the liver and discoloration of the feces. The condition of the patient soon again became normal, but symptoms of uremic coma appeared suddenly on the fourth day and terminated the life of the patient in the course of forty-eight hours.

WANTED: TUMORS

In our research laboratories, we are now doing a lot of experimental and diagnostic work with the Abderhalden tests. In order to do the best work possible, it is essential that we should have a goodly collection of malignant tumor-tissue of various kinds for use as "fundaments." We therefore shall appreciate it if any reader of *CLINICAL MEDICINE* who has a good-sized specimen of sarcoma or carcinoma will send it to us while the weather is still cool, since no antiseptics of any kind may be used to preserve it.

Among the Books

SOME RECENT BOOKS ON TUBERCULIN

Tuberculin in the Diagnosis and Treatment of Tuberculosis. (Weber-Parkes Prize Essay, 1909. With Additions.) By W. Camac Wilkinson, B. A., M. D., F. R. C. P. London: James Nisbet & Co., Ltd. 1912. Price \$7.50.

Tuberculin in Diagnosis and Treatment. By Louis Hamman and Samuel Wolman. New York: D. Appleton & Co. 1912. Price \$3.00.

Sahli's Tuberculin Treatment; Including a Discussion of the Nature and Action of Tuberculin and of Immunity to Tuberculosis. By Dr. Hermann Sahli. Translated From the Third German Edition by Wilfred B. Christopherson. With an Introductory Note by Egbert Morland. New York: Wm. Wood & Co. 1912. Price \$3.00.

Ueber Tuberkulinbehandlung und ueber das Wesen des Tuberkulins und Seiner Wirkung, Sowie ueber Tuberkuloseheilung und Tuberkuloseimmunitaet. Vierte Umgearbeitete und Erweiterte Auflage. Von Prof. Dr. Hermann Sahli. Basel Benno Schwabe & Co. 1913. Price, in paper cover, Mk. 7.20.

Tuberculin Treatment. By Clive Riviere, M. D., F. R. C. P., and Egbert Morland, B. Sc., M. D. Second Edition. London: Oxford Medical Publications. 1913. Price \$2.00.

Tuberculin in Diagnosis and Treatment. By Francis Marion Pottenger, A. M., M. D., St. Louis: The C. V. Mosby Company. 1913. Price \$2.50.

Lehrbuch der Spezifischen Diagnostik und Therapie der Tuberkulose. Von Dr. Bandler und Dr. Roepke. Siebente Jaenzlich Umgearbeitete Auflage. Wuerzburg; Curt Kabitzsch. 1913. Price Mk. 9.50.

Grundriss der Spezifischen Diagnostik und Therapie der Tuberkulose. Von Prof. Dr. J. Petruschky. Leipzig: 1913.

As will be seen from the foregoing titles of recent textbooks on the use of tuberculin in the diagnosis and treatment of tuberculosis, one can no longer complain of a dearth of books upon the subject; and it appears evident that tuberculin—or, better, the specific treatment of tuberculosis by means of prepa-

rations obtained from the causative virus of the disease—has at last come into its own.

As is but natural in a subject that was so fiercely disputed, within our own memories, as that of tuberculin treatment, the opinions concerning the choice of preparations, the selection of cases, the mode of administration, and so on, vary within wide limits, and the recommendation of any single one of the existing textbooks to the general practitioner must, necessarily, depend upon the personal bias of the one making it.

It must be admitted that all the enumerated books offer excellent material for study, and it will be well for the physician to study one or more of them thoroughly, best under the guidance of a master, before approaching the difficult task of treating tuberculosis by means of specific remedies. We must not forget that tuberculin is a two-edged sword, potent for good and for evil, and that it should be used only after painstaking investigation of the principles involved in its action.

Two directions in the application of tuberculin as a remedial agent have developed in the course of time: one, which aims to secure a tolerance of tuberculin (toxin-tolerance, or *Giftfestigung*), either slowly and without causing appreciable reactions (Sahli) or briskly by means of deliberately, though carefully, produced reactions (Camac Wilkinson); the other, which doubts whether the deliberate production of a focal reaction is wise in pulmonary cases (Riviere and Morland), and which believes that good results are obtained by the slower methods, and with less risk (Hamman and Wolman).

For the general practitioner who administers tuberculin in ambulant cases, as a rule the slower method, by which distinct focal reactions are avoided, undoubtedly will be the wiser proceeding. In any case, specific remedies should not be employed until a clear conception is obtained of what they are expected and what they are able to do.

The various remedies grouped under the generic term tuberculin must be carefully differentiated, and we must realize that the action of culture products (old tuberculin) is essentially different from that of the body-substances (bacillus emulsion; watery ex-

tract of tubercle bacilli). As to the theory of tuberculin action, the reviewer's preference is for that of Wolff-Eisner, which has been adopted by Pottenger (as shown in his book), and which affords an excellent explanation and working-theory for practical application.

In general, it is to be remembered that not every case of tuberculosis is suitable for specific treatment. The patient's organism may be fully capable of responding to the irritation of the bacilli and their products; it may be able to form sufficient antibodies, or reaction-products, to "make its own immunity"; again, in far-advanced cases all power of reaction may be lost or the organism may be so flooded by antigens that the introduction of a further amount of the irritant would produce harm. In all these contingencies tuberculin in any form whatever is not indicated.

In other cases, the immunity is incomplete, although the power of reaction is fair. Then a suitable and proper course of specific treatment will aid in the completion of the immunity and in the destruction of the bacilli, as well as in the neutralization of their products. Healing of the tuberculous disease will then be promoted by specific treatment.

The theory of immunity, especially as it applies to tuberculosis, is so difficult that the reviewer wishes to warn against any rash attempts, and rather to advocate a course in a tuberculosis sanatorium where this form of treatment is followed. A few weeks will give the careful student a desirable training and will prove a splendid investment, for the advantage of the physician himself and of his patients.

In tuberculin treatment, possibly more than anywhere else, the strictest individualization is necessary, and it is impossible to follow the same schedule or diagram of dosage in every case presenting itself for treatment. In one, an immunizing response is obtained from small constant doses, time being allowed for the sensitiveness to tuberculin to return; whereas, in the other, increasing doses are given, at intervals so short that the tolerance produced by the previous dose has not yet disappeared.

The former mode is said to be chiefly applicable to localized tuberculosis without systemic intoxication, while the latter is claimed to be best in pulmonary tuberculosis in which there is disturbance of the general health from absorbed toxins.

The reviewer believes that it is a mistake to administer tuberculin so as to reach a given maximum dose at all events. He

believes that many patients do not require such an arbitrary maximal dose and that a smaller one is maximal for them. To learn to distinguish the individual needs of each patient and to carry his treatment to a successful termination constitutes the ability to use tuberculin.

CORRECTION: MOORE'S "BOVINE TUBERCULOSIS"

Through some error the price of Moore's "Bovine Tuberculosis, and Its Control" was incorrectly given as \$4.00. As a matter of fact, the price of this book is \$2.00. We are glad to call attention to this mistake, and to say another good word for the book itself, which is excellent.

AUERBACH: "HEADACHE"

Headache. Its Varieties, Their Nature, Recognition, and Treatment. By Dr. Siegmund Auerbach, chief of the Polyclinic for Nervous Diseases in Frankfurt a. M. Translated by Ernest Playfair, M. B., M. R. C. P., New York: Oxford University Press, London: Henry Frowde. 1913. Price \$1.50.

The patient who consults the doctor for headache is just as much entitled to diagnostic skill as the one who calls upon him to diagnose and cure some obscure affection in the right iliac fossa, and the case is not to be lightly dismissed with the most perfunctory attempt, or perhaps no attempt at all, at diagnosis and the most superficial kind of empirical treatment.

Granted that the most common cause of headache is an impaired activity of the gastric function or a rheumatoid induration of the scalp-muscles, the very next case presenting itself may be the premonitory warning of a renal function dangerously near to suspension. Headache, after all, is but a symptom and never should be allowed to pass for an entity; instead, the condition of which this pain is the outward and visible sign should thoroughly and carefully be canvassed.

This is the principle underlying Doctor Auerbach's little book. In his position, he, naturally, has had a very wide experience with headaches of all types and degrees in the course of his work in the Frankfurt neurology clinics, and he is qualified to speak with some intelligence and authority upon the nature and significance of this commonest of all neuronic manifestations—as generally misunderstood as it is common.

Headache is a subject in which every physician most decidedly is interested—the general practitioner perhaps more than any other. We commend this little book to his notice. Its careful perusal and the application of its teachings in practice will furnish the key to many an obscure diagnosis, hence, open the way to the relief of many a distressed victim.

SAUNDERS' NEW CATALOGS

The W. B. Saunders Company, publishers of Philadelphia and London, have just issued an entirely new 88-page illustrated catalog of their publications, and just as great care evidently has been taken in its production as this firm does in the manufacture of its books. It is extremely handsomely gotten up, and is a descriptive catalog in the truest sense, telling you just what you will find in the books enumerated and showing by specimen cuts the type of illustrations used. It is really an index to modern medical literature, describing some 250 books, including 30 new ones and new editions.

A postal sent to The W. B. Saunders Company, Philadelphia, will promptly bring a copy—and you should have one.

HENSON: "MALARIA"

Malaria: Its Etiology, Pathology, Diagnosis, Prophylaxis, and Treatment. By Graham E. Henson, M. D. With 27 illustrations. Saint Louis: The C. V. Mosby Company. 1913. Price \$2.50.

There is no doubt, as the author says in his preface, that malaria is the most serious problem that confronts the physician and the public health-officer in all tropical and subtropical countries; and there is, perhaps, no disease in which the map of our knowledge has undergone a more complete change within the last twenty years or so.

Practically every branch of medical research—and even some departments of scientific research outside of medicine—have contributed to the modern status of our understanding of malaria, necessitating a complete and radical revision of our former concepts of the subject, in all of its phases. Nor are these changes confined to the purely scientific aspects of etiology and pathology, but they affect in a very important way the more practical considerations of prophylaxis and treatment.

It is most desirable that all of these new data, and their clinical significance, should be assembled and set forth in orderly, coherent

fashion, for utilization in dealing with malaria; and this is the task that Doctor Henson, a resident of Jacksonville, Florida, has set himself in this monograph. How well he has succeeded, the book itself must eventually testify.

Personally, we feel that this is the best modern presentation of the subject that has yet been given to the profession and ought to prove of invaluable service to all physicians whose lot is cast in districts where malaria is a prevalent disease. We will go further, and predict that the book will contribute largely and importantly to the ultimate triumph of medicine and sanitation over a disease which as yet scarcely has been intelligently attacked.

POTTENGER "TUBERCULIN"

Tuberculin in Diagnosis and Treatment. By Francis Marion Pottenger, A. M., M. D. With 35 illustrations, including 1 plate in color. Saint Louis: The C. V. Mosby Company. 1913. Price \$3.00.

This monograph on tuberculin, which is dedicated to the memory of Robert Koch, will aid much in arousing a better understanding of what the use of tuberculin means. Coming, as it does, from a man who was among the earliest supporters of the specific treatment of tuberculosis, it reflects the results of a wide personal experience as well as a careful study of the work of others.

The author explains what can be expected from the use of tuberculin, what it accomplishes, and how it is to be used. It will be well to heed his warning, that to inject tuberculin does not mean treating tuberculosis; in other words, specific remedies can not be given "according to Hoyle," or by any rule of thumb, but in each instance they must carefully be adapted to the individual case under treatment.

The reviewer cannot enter into the various subjects discussed; that must be left to personal study. However, he wishes to express his regret that, in accordance with the prevailing custom, the author employs the term "tuberculin" in a generic sense for all products of the tubercle bacillus that are used in the diagnosis and treatment of tuberculosis. Strictly speaking, tuberculin, without qualification, stands always for the old tuberculin of Koch (TO, tuberculinum originale) and for its modifications, that is, for preparations obtained from the culture-medium on which tubercle bacilli have been grown. Substances prepared from the bacilli themselves are essentially different, Wolff-Eisner to the

contrary notwithstanding, and they should not be designated as tuberculin.

With this formal objection made, the reviewer wishes to congratulate the author upon the results of his industry, and the profession upon the acquisition of this valuable and important book—which, by the way, only gains by the addition of Professor Koch's original contributions to literature on the subject of tuberculin.

DAVIS: "HOW TO COLLECT A DOCTOR'S BILL"

How to Collect a Doctor Bill. By Frank P. Davis, M. D., secretary of the Oklahoma State Board of Medical Examiners. The Physicians' Drug News Company, Newark, N. J. 1913. Price \$1.00.

There is a well-borne-out proverb in general circulation, to the effect that, if you wish to make an enemy of a man, all you have to do is to lend him money. The end of such a transaction usually is that you, not he, become uncomfortably embarrassed; while he, not you, develops the idea that he is an injured person, and looks upon you as his enemy. The same denouement generally results from the unwise practice of rendering professional service and not collecting one's bill—which virtually amounts to lending the patient money.

All of which the average doctor knows well enough, but he frequently fails to make collections, for want of the tact or method that is necessary to make a good collector.

Here, then, is just the little book this doctor wants, written by a physician who knows the game and has played it successfully; a book full of the ripe, practical fruits of experience, in terse, usable form; and, moreover, there is appended a digest of the laws governing the game in the various states of the Union.

EYRE: "BACTERIOLOGICAL TECHNIQUE"

The Elements of Bacteriological Technique: A Laboratory Guide for Medical, Dental, and Technical Students. By J. W. H. Eyre, M. D., M. S., director of the bacteriological department of Guy's Hospital and lecturer on bacteriology in the Medical and Dental Schools. Second edition, rewritten and enlarged. Philadelphia and London: The W. B. Saunders Company. 1913. Price \$3.00.

A knowledge of bacteriology has become an essential to success in medicine. Not everyone need become a laboratory expert, but, certainly, everyone should be familiar with the principles of this branch of biology and be prepared to do the simpler tests if necessity arises. We know of no book upon the technic of bacteriology which gives the desired information in a more simple and easily accessible form than this one by Eyre. It is plainly written, carefully illustrated, completely covers the subject, and the information contained is arranged in such a careful manner that it can be utilized to the very best advantage.

It gives us particular pleasure to recommend this book.

"REFERENCE HANDBOOK OF THE MEDICAL SCIENCES"

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. By Various Writers. Third edition, completely revised and rewritten. Edited by Thomas Lathrop Stedman, A. M., M. D. Complete in 8 volumes. Volume II. New York: William Wood & Co. 1913.

The volume of this great compilation now before us takes in the whole of letter B and as far as chloroform, under C. Like the preceding volume of this colossal work, it is wonderfully complete, exceedingly well written, and thoroughly modern. In fact, it is possible to find in this work more information upon more subjects than in any book of the kind in our language, so far as we are familiar with the bibliography. Thus, take, for instance, the general subject of blood. There is, first, a general discussion of the character and constituents of the blood, covering 17 pages, or possibly more than 20,000 words—a good-sized book in itself. Then there is a long article upon the circulation of the blood, and a still longer one upon the clinical examination of the blood, this really being the best discussion of the subject we have seen anywhere; while other articles are upon blood-letting, blood pressure, blood stains, blood vascular system, and blood-vessels. Certainly, anyone who wants information concerning the blood will find here about everything he is likely to desire.

Assuredly, every physician who needs a reference-work (and what physician does not?) should possess this one, and it gives us much pleasure to commend it.

Questions Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 5996.—“Significance of Chest Pain.” M. S., Kansas, desires light on two conditions that he finds most common and, yet, hard to relieve; to wit:

The patient complains of a severe pain in the chest either on the right or the left side in the region of the fourth or fifth ribs, near the mammillary line. Sometimes the pain is nearly constant and sharp, sometimes dull and aching. At times he cannot lie on the affected side. There are no other symptoms, except for some gas in the hepatic or splenic flexure of the colon. Frequently the pain is severe on walking or raising his arms. The doctor nearly always “treats for flatulence,” without, in many cases, being able to demonstrate any special disease. Accepted treatment for pleurodynia affords no relief, but drugs directed against gas formation in the bowels do. He has always thought it a symptom of stomach or some colon disease, but frequently no other symptoms are present.

A woman has had a pain in her right chest off and on for one year; sometimes it is worse than at others. The only other symptom she has is, a little gas in the hepatic flexure of the colon, and an exceedingly painful tenth rib, on its lower border over the gall-bladder. The pain was worse when she wore a corset, but she does not wear one now, but the pain persists.

As to pain in the chest on the right side, that may have an entirely different origin than pain felt on the left side, even though the painful area be “at about the fourth or fifth rib in the mammillary line” in each instance.

Cardiac pain may be closely simulated by the pseudoangina of anemic, gastric, hysteric or toxic origin, and may cause pain under the sternum, in the right shoulder, and in the right hypochondrium. Thoracic aneurism may give rise to pain beneath the sternum or between the shoulders, but the other symp-

toms enable you readily to recognize the condition.

Pain in the region described, upon the right side, may be due to gallstones, cholecystitis, functional diseases of the liver (i. e., passive congestion, or inflammatory, suppurative, syphilitic or malignant disease), cirrhosis, very tight lacing, chronic pleurisy, impacted hepatic colon, gastropotosis, carcinoma either of stomach, pylorus, duodenum, pancreas or colon, to aneurism, movable kidney, uremia, pyelitis or so-called “rheumatism.” Impaction of the colon may cause pain in the right or the left hypochondrium, while flatus in the splenic flexure may induce precordial pain. Oftentimes pain ranges from the mammillary line down to the right hypochondrium.

We would suggest that you study the chapters on pain accompanying diagrams in “Diagnostics of Internal Medicine,” by Butler. If you will make a thorough examination of the woman who has severe pain about the tenth rib, and then give us a clear clinical picture, we shall be pleased to make definite diagnostic and therapeutic suggestions.

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QUERY 5997. — “Periodic Hematemesis. Autotoxemia?” D. B. E., Tennessee, has under his care (Case 1) a man 27 years of age who has taken treatment, from a prominent physician, for ulcerated stomach; our correspondent thinks, however, that he has a stricture of the esophagus. The man is unable to swallow solid foods, often even choking on soft food or milk. He is pale and thin. He vomits up a great amount (over a pint) of black blood and mucus virtually once a month; then, after he has vomited, he feels pretty good for a few days, when he begins to experience a sense of fullness and burning in his stomach. This increases

until finally he is in great misery, which is relieved only by another spell of vomiting.

"No doubt," the Doctor continues, "the man has ulcer of the stomach, but he surely must have some trouble with his esophagus, too. There is no history of tuberculosis, syphilis or injury; lungs are normal; no pain is felt at any point except in the pit of the stomach. Would the use of the vibrator prove beneficial?"

Case 2. "Woman 42 years of age, whose left ovary has been removed, and a cyst from the right one. Menstruation occurs regularly. Gets 'spells,' when she burns like fire' nearly all over her body and she jerks terribly—at the same time her abdomen beats tumultuously, 'nearly being jerked to pieces'; eventually her head will begin to jerk. The woman has had five children, and all were normal deliveries."

Frankly, doctor, we are at a loss to explain the periodically recurring hematemesis in your first case. We do not see any really definite indication of esophageal involvement; nor would bleeding occur from a single round ulcer at definite and long intervals.

Under the circumstances, we are inclined to diagnose acute (hemorrhagic) erosion, the lesion probably existing near the cardia; patients presenting no definite gastric symptoms may suddenly vomit from a pint to a quart of blood. This condition is usually observed in individuals from 25 to 30 years of age. Such hemorrhages may prove fatal or the patient may recover and be subject to recurrences. This condition cannot definitely be differentiated from latent ulcer.

As we have pointed out, ordinary cases of gastric ulcer have a definite symptomatology, something not observed in acute erosion. In chronic erosion, no hemorrhages occur. The etiology is unknown; but frequently a toxic element is responsible. Frequently regurgitation is observed in such cases.

You do not state, doctor, whether hypo- or hyperchlorhydria exists; neither do you give us any idea of the pathologic conditions as revealed by the examination of the stomach contents. However, under the prevailing circumstances, we certainly should not use a vibrator. Furthermore, it is our judgment that the sooner this patient submits to operation, the better his chances of recovery.

In gastric ulcer proper, as, of course, you are aware, pain ordinarily occurs within a few minutes after eating and persists during digestion; epigastric pain is increased on pressure, and the sensitive point usually is

distinctly circumscribed. Within a few weeks, dorsal pain makes its appearance; this being gnawing in character and located to the left of the spine, between the eighth and the tenth vertebra. This pain is relieved by vomiting. Furthermore, constipation and anemia are marked, while the appetite is favorable.

You have failed to state, doctor, whether the patient's stools have been examined for occult blood. We note, also, that you do not mention the existence of melena. Really, this is a most interesting case, and we shall be pleased to cooperate with you, to the extent of our ability, in the light of more definite clinical data.

In case 2, you probably have to do with a condition of intense autointoxemia. Make a very thorough physical examination, paying particular attention to the woman's pelvic organs; test the reflexes; take the blood pressure; then accompany these data with a specimen of urine for our pathologist. See whether you can discover tenderness on deep pressure along the vertebræ. Thorough elimination and such sedatives as solanine, scutellaroid, and the bromides in small doses, with neuro-lecithin, might be tried with advantage.

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QUERY 5998.—"Epistaxis." D. C., Connecticut, has a patient who, he declares, for a year past, "bleeds from the right nostril at the slightest movement." Treatment, for six months, by a specialist has given no relief whatever. Then a course of calcium lactate (grs. 15) and hydrastinine hydrochloride (gr. 1-2), taken three times a day, helped to improve the condition, checking the hemorrhage when he is not at work. But, as soon as the man exerts himself, bleeding occurs about three times per day. Local applications are of no avail.

As you can readily understand, doctor, treatment, to be effective, must be based upon a clear conception of the causative condition. A small hemorrhagic area may exist in the nostril; if so, this should be cauterized. Be sure to examine the patient's nares carefully by reflected light.

The fact that the hemorrhage occurs only from one (right) nostril would seem to exclude hemophilia, while we may assume that traumatic ulceration (syphilis, foreign body, and the like), adenoids or rhinitis—especially the atrophic form—would have been recognized by the specialist.

As you are aware, epistaxis reaches its

maximum at puberty, being less often met with after that period, until the advent of advanced life, when it may be a serious symptom. The affection is more common in males than in females. It is absolutely essential to decide whether the hemorrhage is dependent upon local conditions or owing to constitutional causes. Save in diphtheria and malignant infection, it usually is comparatively easy to stop the bleeding; in fact, the prognosis practically always is good. If the bleeding is of local origin, multiple telangiectasis probably is the cause.

The general causes are: (1) High arterial tension, (arteriosclerosis, hepatic cirrhosis, chronic interstitial nephritis, and the like); (2) high venous pressure (mitral stenosis, bronchitis, whooping-cough, thoracic aneurysm, tumors of the neck); (3) toxic blood diseases (pernicious anemia, chlorosis, purpura, leukemia, hemophilia, malaria, exanthema, and the like). Occasionally the condition arises from the ingestion of large amounts of quinine, salicylates, chloralamide or of phosphorus.

In 90 percent of all cases, the bleeding point will be found on the anterior portion of the cartilaginous septum, the spot known as Kiesselbach's area. This spot will be found about a quarter of an inch within the vestibule and an equal distance from the floor of the nose. The mucous membrane here is very thin and the little vessel (a branch of the internal sphenopalatine) anastomoses with a branch of the superior coronary. The junction sometimes is marked by a distinct varicosity. This vessel has been called the "artery of epistaxis."

If the bleeding point can be definitely ascertained, and the hemorrhage is not controlled by the application of adrenalin and cocaine solution (or other agent), then apply the galvanocautery at cherry-red heat. A silver probe heated to a dull-red may be used the same way. Failing these, apply a pointed stick of silver nitrate or touch with chromic or trichloroacetic acid. The patient should not be allowed to blow the nose for two or three days afterward. The mucosa may be kept moist by the application of camphor-menthol. For the anemia following continued hemorrhages, give the arsenates of iron, quinine and strychnine, with nuclein, and order a highly nutritious diet.

In epistaxis of cirrhosis of the liver, mop out the nostril with a pledget saturated with anesthaine and adrenalin-chloride solution (1 : 5000), then plug with a tampon moistened with the following mixture:

Sodii chloridi.	grs. 11
Gelatin	drs. 2
Distilled water.	drs. 3 1-2

Unfortunately, doctor, you do not tell us the age of your patient or his general condition.

In ordinary cases, atropine hypodermically or in full doses by mouth proves promptly effective. If the face is flushed and cerebral congestion is marked, gelseminine should be given and followed by hydrastoid or hydrastinine hydrochloride.

In the epistaxis of childhood and in plethoric individuals, give minute doses of aconitine; eupurpuroid, collinoid, and hamameloid may be administered for their tonic effect on the mucosa.

Locally, stypticin, alum, and tannic acid or a solution of antipyrin (20 grains to the ounce) prove useful; suprarenal solution also is excellent. Sometimes it is necessary to plug the posterior nares with a sponge or cotton tampon. As stated, if a persistently bleeding area can be discovered, this must be touched with the actual cautery, chromic acid or a solid stick of nitrate of silver.

When general congestion is present, together with high blood pressure, thorough catharsis always is desirable.

QUERY 5999.—"Chronic Ulcers of Extremities." F. E. McC., Montana, asks advice in the case of a 36-year-old married woman doing housework. When she was 9 years old she suffered from sore throat, which, she declares, was not specific; but since then has been in perfect general health, not being troubled with headaches, constipation, indigestion or rheumatism. Her tongue I find clean. However, for the last ten years small ulcers have continued to break out on the soles as well as tops and sides of both feet; and within the last four years these sores have been ascending upward and are now a little above the ankles. The patient has no varicose veins or other circulatory disturbance.

The ulcers are about the size of a dime, form without much inflammation, are rather whitish at first and eventually rupture, forming a little sloughing area; the pus is yellow and small in amount. The lesions gradually dry up, then new ones will form. A dark-colored scar is left after some of them. The patient's urine is rather scant (about 2 pints in twenty-four hours), of 1010 specific gravity, free from sugar and albumin; only slightly acid. The patient is somewhat

restless at night, but suffers no pain in the feet. The ulcers are not sensitive.

It would be unwise for us to venture a definite diagnosis upon the facts presented. We suggest that you send to our pathologist, for examination, a blood smear, a specimen of pus from one of the recent ulcers, and also a specimen of urine (4 ounces from the combined 24-hour output, stating the total quantity voided). Make a note of the pulse rate; also, if possible, ascertain the blood pressure. What is the family history? Is there any disorder of the pelvic organs? Be very certain upon this latter point, doctor.

On the whole, we are inclined to think that an autogenous bacterin and saturation of the patient with echinacoid would prove promptly beneficial. Arsenic—either the sulphide of arsenic or the liquor arsenii compound (Barclay)—should be given as alternants.

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 QUERY 6000.—“Diphtheria Antitoxin and Amenorrhea.” L. L. B., Iowa, asks whether diphtheria antitoxin causes amenorrhea. He tells of a girl 20 years of age who had diphtheria in December and who has not menstruated since then, although she always was regular previous to her illness. She is able to be about, but is weak, has no appetite, is sleepless, slightly anemic, has had no menstrual pains and experienced no “heaviness” in pelvis or back. Our correspondent did not treat her for the diphtheria, hence, cannot say how ill she was or how much antitoxin she received. He is giving her a general iron tonic and a gentle laxative.

As to the diphtheria antitoxin, that positively does not cause amenorrhea; however, this as well as other pathologic conditions not infrequently follow when an insufficient amount (units) of antitoxin has been employed in combating the disease.

The antitoxin, as you know, directly neutralizes the toxins engendered by the bacilli, and it is necessary to administer sufficient of it, not alone to modify the disease-process, but to prevent as fully as possible further injury to the cells. It is wiser, therefore, always to give larger doses of the antitoxin than might seem necessary. In distinctly toxic cases, it should be employed in maximum dosage, and the administration be repeated.

If the patient is not seen early, extensive destruction of the nerve-cells may have occurred before antitoxin can be resorted to. Of course, this agent can not initiate repair,

its only function being to prevent further destruction. Consequently, we must regard amenorrhea, paralysis, and other pathologic conditions observed after diphtheria as a result of the action of the toxins generated by the Klebs-Loeffler bacillus, and the early and free administration of antitoxin as the best preventive.

You will find an exhaustive chapter on the use of serum therapy in diphtheria in Hare's “Modern Treatment,” from which we quote a few passages: “It is very difficult to estimate correctly the amount of antitoxin which should be given, as there is no way of knowing how much toxin has been absorbed by the blood and taken up by the tissues. We know that the larger the amount of antitoxin injected into the tissues, the more rapidly will a considerable amount be absorbed into the blood and pass into the body-fluids. Only a small percentage of what is in the blood passes out of the vessels into the tissues. It is for this reason that, if we would neutralize toxin which has passed from the blood stream, but has not yet united with the tissue-cells, very much more antitoxin should be given than would be required in the test tube to neutralize the toxin. It is also debated as to whether all the antitoxin required should be given in one dose or should be given in divided doses. Theoretically, it would be proper to give sufficient in the first dose to suffice, but practically it is difficult to judge the necessary amount, and, unless we give larger doses than are required, we fail to give sufficient for the needs of the exceptional cases.”

Reverting to your patient, it is probable that she will respond to full doses of nuclein and sanguiferrin, to be followed (possibly) by viburnoid, aletroid, and anemonin. Besides, she should spend a great deal of her time in the open air, be instructed to breathe deeply, and receive an extremely liberal diet.

If you care to make a thorough examination of the patient and will send a specimen of urine (4 ounces from the 24-hour output, stating the total quantity voided), together with a specimen of her blood, we may be able to make some useful therapeutic suggestion.

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 QUERY 6001.—“Pollakiuria.” W. P. B., Illinois, has recently read in CLINICAL MEDICINE a note on the treatment of women troubled with a frequent desire to urinate. He happens to have such a woman under treatment and finds that, in spite of everything he does, the condition continues. And

"if you can help me out," he writes, "I shall be more than grateful."

It is difficult to treat polyuria, or, rather, undue frequency of urination (pollakiuria) without having a clear understanding of the causative conditions. Thus, for instance, frequency of urination may be caused by (1) diseases of the tract itself; (2) diseases independent of the urinary tract; (3) disease outside of the urinary tract that interfere with its functions.

As a rule, the bladder is responsible for undue frequency of micturition, most of the trouble being situated in the part below the middle zone of the organ in health when filled with fluid. Diseases of the kidney (interstitial nephritis, tuberculous nephritis in its earlier stages, nephrolithiasis, movable kidney, etc.) may be causative. Vesical calculus or polypus (especially if situated near the vesical outlet) are frequent causes of pollakiuria.

In women, nervous disorders (hysteria, neurasthenia, and the like) may give rise to an increased amount of urine or to frequent voiding of small quantities. The character of the urine itself may be responsible; highly acid urine or one containing calcium oxalate, uric acid or indican (the result of faulty metabolism), this causing irritation not only of the kidney but of the vesical mucosa; and subsequent pollakiuria. Infections or congestions of the urethra, presence of caruncles, forward displacement of the uterus, enteroposis, the wearing of ill-fitting tightly laced corsets, cystocele, and a score of other causes may be responsible for the condition.

Displaced uterus, especially when it tips forward in such a way as to rest on the bladder, may cause almost constant desire to micturate. Again, if the uterus has fallen backward and pulls the bladder with it, the discomfort from pressure on the pelvic plexus becomes intense; residual urine, accumulating in the back of the bladder, accentuates the desire to urinate.

Inflammation of the tube, or an intrapelvic tumor pressing upon the bladder may give rise to frequent urination. Not frequently the dilated sigmoid flexure may press upon the bladder and give rise to pollakiuria. This is a somewhat more frequent cause than is generally recognized, and should not be forgotten. In women, the sigmoid loop may be bound down by adhesions following salpingitis. As a matter of fact, doctor, it would be necessary to write a small volume to consider the subject in detail.

In every instance, examine both the patient

and his urine carefully, and base your treatment upon the conditions present in the individual. You will find a remarkably interesting chapter upon disturbance of micturition, with tables illustrating the different causes of frequency of urination, in Guiteras' "Urology."

Many times a course of arbutin and the application of a snugly fitting light elastic belt will prove beneficial. Constipation always must be corrected, and nervous, over-worked women should receive a course of the arsenates with nuclein.

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QUERY 6002.—"Gonococcus Infection of the Mouth." W. W. B., describes a case of gonorrhea of the mouth in a man 30 years of age and asks for therapeutic suggestions. For several months he has used the astringent and antiseptic washes: protargol, argyrol, boric acid with alum, thymol, potassium permanganate, zinc sulphate, carbolic acid in solution with sodium bicarbonate, hydrastis, tannic acid and glycerin, tincture of iodine, and other drugs. The whole buccal mucous membrane has been painted with a mixture of iodine (40 parts), glycerin (55 parts), and carbolic acid (5 parts), with bichloride of mercury (1:2000) solution, and acetozone solutions as strong as 1:5000, but all without relieving the condition. The patient has received gonorrhea phylacogens (as much as 10 Cc. daily), until now it fails to give any reaction, except a slight muscular soreness. His general health is good, he is of regular habits and does not use liquors or tobacco at all. Our correspondent concludes by saying: "I have always been of the opinion that buccal gonorrhea was very easily cured, but find it otherwise."

First of all, we would ask whether you have any definite evidence of the continued presence of the bacillus Neisser in this case. It is the consensus of opinion that only the mouths of newborn and very young children are susceptible to the gonococcus.

Osler, Musser-Kelly, and the "Hand Book of Medical Sciences" do not even mention the subject. According to the "Index Medicus" for 1911, two reports appeared in the literature for that year: "Un cas de blennorrhagie buccale.—Matherbe, *Gaz. Med. de Nantes*, 1911, 2, pp. 801 to 805." "Genuine gonorrhoeische stomatitis beim erwachsenen.—Zitz, *Oester.-Hungar. Viertelj. f. Zahnärzte*, Vienna, 1911, pp. 174 to 193." The "Index Catalog" of the Surgeon-Generals's Library, the volume devoted to subjects under "G 2" lists a few articles on the subject.

In Blair's "Surgery and Diseases of the Mouth and Jaws," page 294, the following statement is made: "Gonorrhea, apparently, occasionally occurs in the mouths of newborn infants—rarely in adults. The mucous membrane is swollen and red and in places there occur superficial ulcerations. The secretions are said to show the presence of the gonococcus, and a purulent stomatitis in the newly born should be examined for it."

According to Pfaundler and Schlossman, there is often present in the mouths of infants a coccus closely resembling the gonococcus, and to them the evidence so far produced is not conclusive that the disease described under this head really is a true gonorrheal stomatitis.

Treatment consists in cleansing the mouth with a 10-percent borax solution and in touching the ulcers with a 2-percent solution of silver nitrate. The prognosis seems good.

McCurdy, in "Oral Surgery" (p. 35) says: "Other mucous membranes are susceptible to the infection—the eye, rectum, and anus. Cases have been reported of gonorrheal infection of the mouth and nose, but proof is not conclusive that these mucous membranes are susceptible to infection by the gonococcus."

On page 135 a table of the differential diagnosis of diseases in the mouth appears, in which it is stated that gonorrheal stomatitis may appear at any age, the mucosa presenting a dark-red appearance, the lesion being diffused, with illly defined margin; course is acute, involvement general. Temperature is normal or slightly accentuated. Thus you will readily understand that it is essential to differentiate between catarrhal pseudomembranous stomatitis and catarrhal ulcerative stomatitis of the gonorrheal variety; the latter condition, as we have already pointed out, being rarely observed.

If you will give us a clearer idea of the conditions you have to contend with, and send to our pathologist clippings and scrapings from the affected surface, we may be able to aid you more intelligently. It may be necessary for you to make a culture before a definite diagnosis can be arrived at.

QUERY 6003. "Salammoniac for Sobering Up." J. C. W., Tennessee, has heard something about ammonium chloride being useful for sobering up a drunken person, and wishes for further details, if available.

One of the most widely used sobering-up draughts is greatly diluted aromatic spirit of ammonia, which is a diffusive stimulant,

with the aromatics serving largely (here) as flavors. (The chloride of ammonium presumably would act in the same manner, by virtue of the ammonium base.) Capsicum and strychnine also are favorites for this purpose. Now to answer our correspondent.

Some two or three years ago (we believe) a certain Dr. Hennell gave out what seems to be a new means of dispelling intoxication; and these in effect are the suggestions as they were, at the time, published in some of the pharmaceutical journals:

The dose of the ammonium chloride is from 1-2 to 1 dram, dissolved in a wineglassful of water, followed by a copious draught of cold water. However, a smaller dose of from 5 to 10 grains is said often to be sufficient. The claim is made that this—possibly once repeated—sobers the person in short time, while also obviating impending delirium tremens. Should the patient not be calmed in about two or three hours, administration of some hypnotic is recommended.

QUERY 6004.—"Somnolence Following the Administration of Cough Remedy." F. A. K., New York, tells us that he has dispensed the Blackham formula for cough, dissolving eight granules in one-half glass of water and giving 1 dram of this hourly to children 4 to 6 years of age, and that he has had several marked cases of somnolence from this.

Inasmuch as each granule of this combination contains 1-100 grain of morphine sulphate, eight granules in 4 ounces of water would mean that the child got 1-100 of a grain of the alkaloid hourly. Naturally, since morphine is comparatively slowly eliminated and affects young children quite readily, the soporific effect may be expected after the sixth or eighth dose of the drug.

As a matter of fact, the Blackham cough combination should not be given to young children, except under very exceptional circumstances; and there are many more desirable combinations for the purpose.

If you desire to use the Blackham cough preparation, we suggest that you follow Shaller's rule for the dosage of all poisonous alkaloids; namely, give 1 granule for each year of the child's age, and 1 "for the glass" in 24 teaspoonfuls of water. From 1-4 to 1 teaspoonful of this solution may be given every two hours to effect.

We should always give remedies calculated to remove the pathological conditions causing the cough, which, after all, is a symptom only.

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Our Lethargic Profession: How Can We Wake It Up?

THERE is an old adage, to the effect that it is useless to lock the barn-door after the horse is stolen. We of the medical profession are much given to complaining of the difficulty of holding our own in the struggle for existence; but year after year we neglect getting a lock for the door, and, if some thoughtful person or organization, intent on our protection, *does* provide the lock for us, we promptly throw away the key. In other words, as a profession, we have no satisfactory organization for self-defense. We are as helpless as is a baby with its first rattle.

In all that concerns our material welfare, the amount of lethargy in our profession, the astounding indifference with regard to the future, the absence of fighting spirit, the willingness to submit rather than stand up in defense of our rights is something that is hard for the ordinary nonprofessional citizen to understand. The truth is, of course, that every individual doctor is keenly alive to our critical situation and wants to do something to better it. But what can he do alone, and through what medium can he act?

The labor unions, for instance, are aggressively active without remission. They realize that the wage is the essential thing.

They stand primarily for the defense of the rights of the individual, and they secure these rights by mass action. The fundamental idea of the whole scheme of organized labor is, *to secure adequate compensation for the work they do*. And they are succeeding, because they all stick together and fight their battles as a unit. The fact that they often employ crude, cruel, and dangerous methods, that they frequently are unjust in their dealings with capital and with nonunion labor, and that they resort to force to secure their ends does not offset the really vital and economically essential result, that they have made it possible through their organized effort for their members to live in comfort.

To bring this problem nearer home, we may cite the experience of the druggists. These men have effected a national organization the special purpose of which is, to foster the commercial welfare of its members. We have very good reason to respect this organization, for we have frequently crossed swords with it, and we know the singleness of purpose and the determination with which its leaders work. We do not condemn this association; on the contrary, we rather admire it. The druggists know what they

want, and they go after it with an energy that must command the admiration of any good doctor who has a sense of humor at all; for these men are determined either to get the doctor's business—or his scalp!

Contrast with this activity the lethargy so characteristic of the medical profession. At the meetings of the different state medical societies, it is only rarely that the very vital problem of making a living is discussed at all. The machinery for legislative defense is rusty, out of date, entrusted to men who do not understand the work or its importance, and usually comes to nothing. Of course, there are exceptions. In Illinois, for instance, we have had an excellent legislative committee which has done splendid work. Other states do not fare quite so well.

In New York, the legislature recently enacted a strong narcotic law, the Boylan bill, a measure which profoundly affects the interests of the medical profession. This bill practically was forced through upon the initiative of a very wealthy woman, Mrs. W. K. Vanderbilt. It contained features that were peculiarly obnoxious to doctors as well as to druggists. The latter, through their various organizations of jobbers and retailers, were strongly represented at the hearings in the legislative committee, and, thus, were able to secure valuable trade concessions; but—so far as we have been able to ascertain—no official of the state medical society took any interest in this matter whatever. The writer has searched the columns of *The New York State Medical Journal* for any editorial discussion of this important measure, but in vain, albeit it is of profound interest and concern to physicians, and particularly so to those practicing in the country.

All of which brings us to the moral of this editorial. *We doctors must get together.* Either we must prepare to fight for our rights—and that means for the privilege of earning an honest livelihood—or else many of our number are bound to be starved out. Thousands of physicians are perilously near the latter alternative already. It's fight, or die. Which shall it be? If we decide to fight, then the question is, How shall we go about it to organize for that purpose?

In one of the latest issues of *The Medical World*, Brother Taylor suggests that it may become necessary to organize an association of dispensing physicians for self-defense. To show the need for organizing along these lines, he calls attention to some of the various legislative attempts that have come to light during the last year, designed to prevent the

doctor from securing drugs and himself dispensing these remedies. These efforts have been reviewed in these pages, so we need not relate here what has been done in this direction; neither do we now need suggest what may be undertaken during the 1914-'15 legislative term to throttle the dispensing physician, with more than forty state legislatures in session.

Yet, while we admit the need, we, ourselves, doubt the wisdom of forming a special society to deal with the dispensing-problem alone. For, this is only one phase of a very big subject. On the other hand, we should be prepared to grapple with everything that concerns our economic welfare. Can we do this best by a special organization planned to deal only with our economic problems, or can we secure better results, in the long run, by acting through the channels already in existence?

We frankly confess that we are not prepared to answer this question; however, it is such an important one that we invite every physician, whether he be a regular reader of this journal or not, to express his opinion, through our pages, upon this topic.

What we are anxious to do is this: to get so many opinions that it may be possible to elaborate from them collectively a concrete plan for future action. Let us throw off our lethargy and show that we are awake at last. Tell us what you think about this matter. Doctor write us fully. Don't hold back for someone else to do the thinking and the work that has been the trouble. Give us *your* ideas—*your* place. Everybody boost!

What we need in this country is governmental control of all jokes, with a decisive, definitive recognition that guilt is personal.—William Marion Reedy.

SINGLE REMEDIES AND PRESCRIPTIONS

As a general rule, we have urged our readers to employ single remedies rather than combinations. The primary reason is that very few of us (and we acknowledge the truth of this as applying personally) know even enough about the action of our remedies when taken alone; and when we venture into the combinations we forsake the firm ground of knowledge and embark on the sea of chance.

The use of single remedies with a definite object in view makes for precision in therapeutics. The ideal is a perfectly comprehended pathologic state, or disorder of physiologic function, a knowledge of a remedy that

exactly counterbalances the disorder, and its administration until physiologic balance has been restored. This means study along these three lines, and the development of a true art of medicine, a rational, scientific therapeutics. At the present rate of progress it will be many years before the medical profession, as a mass, has mastered this simple proposition.

But when that has been accomplished we may look for a still higher development in our art, from the rational, scientific combination of remedies even when the need to be met is single and uncomplicated. Take, for instance, the simple demand for the relief of pain. Let us disarm crude criticism at the outset by assuming that we know our A B C's, and that we had met the "removal of the cause" indication.

To attack pain directly, we may have three roads, as we apply remedies to lessen sensibility at the periphery—the seat of the pain or at the cerebral centers or the conducting cords. If any one of these is benumbed by a sufficient dose of the appropriate remedy, the pain is no longer felt. But, instead of using a full dose of either, we may take a minimum dose of each of the three, and we get a greater proportional effect than from a full dose of either.

This phenomenon is easy to explain: Lessen the sensitiveness of the peripheral nerve-ends, and they respond less acutely to pain-inducing irritants. Lessen the conductivity of the nerve-cords, and they transmit sluggishly the weakened irritation. Lessen the receptive acuteness, and a slighter impression is made on the transmitting cords. Diminish their conductivity a little, and the impression may scarcely reach the brain-cells at all or, if it does, the slight lowering of their acuteness suffices that they do not catch the impression at all.

An excellent illustration may be seen when a combination of cathartics is employed. Of them, we know that some increase peristalsis, others increase secretion, some act on the musculature, others on the nerves, some probably on the peripheric ends, others on the cerebrospinal centers. Some exert their maximum power on the small intestine, others on the colon, others on the rectum.

Nature is as exact in the incidence of disease as is the systematist in his description. We may describe endocarditis, pericarditis, but who ever saw a case of the latter where one or both surfaces did not participate? The center of an enteritis may be in the ileum, but it surely extends to some extent upward and downward along the gut. A fracture of

bone is an impossibility without some injury of the surrounding tissues.

The habit of associating allied remedies, therefore, is founded on something more than the shotgun, something-may-hit system. We may not know exactly why one combination succeeds better than any one of its components—still, a thing may be true even if we cannot explain it. Sometimes the chemist helps us out, as by showing that all the soothers of the urinary tract contain the same principle, arbutin. But this is exceptional. The unpalatable truth is that in most of the "happy hits" we make in our combinations we are not prepared to defend them on known experimental data as to the precise action of each ingredient; yet, we know they have succeeded, for all that.

There will have to be a very much extended revival of interest in drugs before their scientific study shall have been completed. But every study made clinically, under proper conditions, has its value.

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If I had to live my life again, I would have made it a rule to read some poetry and listen to some music at least once every week: for perhaps the parts of my brain now atrophied would thus have been kept active through use. The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature.—Charles Darwin.

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"TURN BACK OR GO ON!"

Yes, when I penned that editorial for the March issue I knew somebody would jump right up and cry out in meeting that it was conceited to write such stuff; at least I hoped they would—and they did. Naturally, for it was conceited. Nevertheless, I meant it, every word of it. Only, I wrote as an editor, impersonally. When I claimed precedence for the drug student I did so, not for myself alone, but for the student of drugs in general—for the staff of CLINICAL MEDICINE, for Shaller, French, Servoss, Smith, Henry Beates, Thomas J. Mays, Rogers of Calcutta, V. E. Lawrence, Howle, Coleman, and every one of that host who have been studying and applying drugs under modern scientific conditions.

Squarely at the head of that list I place W. C. Abbott, without whose tireless energy and undaunted persistence and robust, unswerving faith, not a tenth part of the real progress could have been made.

I did not write in defense of drug-medication, but of the modern method, of pure uniform drugs, ascertaining their precise action and applying them in accordance with the

indications. Curiously enough, one of the most torrid roasts received came from a man who totally misapprehended the points of my editorial. I know this, because I know him well and knows that he knows better. But in his letter he brings up four points as at issue between us; and these are, the misuse of opium, alcohol, and calomel, and the value of preventive medicine.

Surely, my old friend was born with a chip on his shoulder. I have taken pains in very elaborate papers to urge that opium and alcohol should not be employed as medicines, with such reckless disregard of definite indications, and that not because of any moral or sociologic objection, but simply because in the majority of our cases there are far better remedies that more exactly fit the needs, and which are *safe* as well as effective.

The alleged misuse of calomel is a tradition. It dates back to the days of our grandfathers. Is there a man living who has really seen a case of the disastrous results of salivation as depicted by Samuel Thomson? Were the cases of permanent injury ever more than exceptional even in the days when the doctors ordered salivation until a quart or two of saliva had poured out?

Today calomel is recognized as a very useful remedy, and rarely do we find a competent, experienced practitioner who does not use it as an excellent key with which to unlock the gates of excretion. True, we usually administer a grain in divided doses, instead of a tablespoonful every quarter-hour; but that is now the customary method of dosage for many drugs.

As to preventive medicine! Who, but I, what journal but *CLINICAL MEDICINE*, had the courage first to advocate transforming the family doctor into a sanitarian, salarizing him instead of feeing, and calling upon him to keep the people well instead of curing them when he could? Not a writer or a journal has come out boldly in recognition of the truth as to our crude, obsolete, antiquated method of paying only when too ill to earn the doctor's fees, making it worth his while to keep a body sick, starving the doctor out when he teaches the community how to keep well. Not one other has proposed a definite, reasonable, practicable plan of meeting the innumerable quack delusions and reducing even the Christian scientist to innocuous desuetude by this strict, scientific business method.

You'll have to show me some more.

Am I correct as to the dense therapeutic ignorance of the body of the profession or, at

any rate, of the prominent men in it? Just try out the biggest doctors on some of the elementary principles of applied therapeutics, such as the increase of nutrition consequent upon the use of the vasorelaxants; the power of atropine to increase capillary attraction; the action of strychnine in enhancing the effect of any other drug administered with it, by increasing the vital reaction against it; the multiplication of power, instead of mere addition, often secured by combining different drugs; the leukoytosis following full doses of pilocarpine and its connection with the control exerted by this remedy over sthenic erysipelas. If your man is able to discuss these trifling matters intelligently, try him on something a little less elementary.

However, our therapeutic aggressiveness is not intended to be cocksureness. While we know that we are often (if not always) right, we also know that we are sometimes wrong. We want to stir you up—get you to thinking—get you to trying some of these things for yourself. We know that we shall all benefit; also, that many of you can teach us more than we can teach you. Our difficulty is to get you to do it. Come on, now!

The signs is bad when folks commence
A-findin' fault with Providence,
And balkin' 'cause the earth don't shake
At ev'ry prancin' step they take.
No man is grate til he can see
How less than little he would be
Ef stripped to self, and stark and bare
He hung his sign out anywhere.

—James Whitcomb Riley

THE NEW SECRETARY OF THE STATE BOARD

The appointment by the Governor of Dr. C. StClair Drake, of Chicago, to the office of Secretary of the Illinois State Board of Health, is an instance of distinction conferred upon an already distinguished exponent of medical journalism—for as such Dr. Drake must be regarded in his relations to the Chicago Health Department. The prime service which he has for many years so ably rendered that Department has been in the line of publicity. He has not merely put the Chicago Health Department on the map, in the sense of giving publicity to its excellent work and ideals, but, what is of far greater importance, he has given currency to its practical purposes and efforts by bodying them forth and popularizing them with his trenchant and virile pen in the pages of *The Bulletin*. And all of this comes broadly under the head of medical journalism.

We hardly know whom most to congratulate upon the appointment. As a Chicago institution, we are sorry to see him go out of our own Health organization. As the representative of a larger and more cosmopolitan profession, we rejoice to see his proven abilities given a wider range for their public employment. And as a medical journalist, we are proud to see this distinction and opportunity for service go to one of our own fraternity.

The best traditions make the best rebels. There is nothing paradoxical in this. No tradition is perfect. The best brings only a passing period of peace or triumph or stable equilibrium; humanity rests for a moment, but knows it must travel further; to rest forever would be to die. A tradition is generally at its best, not when it is universally accepted, but when it is being attacked and broken. And, in a sense, the greatest triumph any tradition can accomplish is to rear noble and worthy rebels. Gilbert Murray

MEDICAL LEGISLATION AND PROFESSIONAL DEFENSE

In the first editorial this month, the inertia of our profession with regard to legislation vitally affecting its interests has been critically discussed. Now, in a recent number of *The New York Medical Journal*, I find an article by Dr. Charles F. Pabst, in which he relates some of his experience with law makers and law making in New York. Doctor Pabst refers specifically to a bill legalizing the practice of the naturopaths and chiropractics in that state; at the time the article was written, this bill had passed the Senate and the Assembly, and was awaiting the signature of Governor Glynn. We are glad to state, as an addendum to Doctor Pabst's article, that Governor Glynn vetoed this bill; although its failure to become a law was not due to any activity on the part of the medical profession of New York.

Doctor Pabst's experience has been the same as that of every person who has tried to arouse the medical profession to the danger of proposed legislation. "Many physicians," he declares, "when asked to oppose this bill, declared that definite action was unnecessary, as the bill never would pass." And, yet, it did pass.

This is exactly the kind of answer that I have received a hundred times from doctors who have been called upon to oppose legislation calculated to prohibit them from dispensing their own medicines. "You can never prevent the doctors from carrying their own drugs." Nevertheless, such bills are passing.

Let us quote from Doctor Pabst's article something of the methods employed in securing legislation, and therefrom learn what physicians usually do to prevent it. This is what he writes:

When a bill is introduced in the legislature, it is referred to a certain committee, and a day is set for the hearing. How many physicians know what a hearing of this kind means to them? It means that an opportunity is offered to those who oppose a bill to voice their objections and suggest amendments, and that those who favor the measure should be represented in order to protect their interests and defend the bill against unjust attacks by the opposition. If this opportunity is neglected, it is no time to complain after a measure has become a law; and, since physicians usually begin to protest about the time a law goes into effect, it is not to be wondered at that the commercial world smiles at the medical man's lack of knowledge regarding the simplest rules of legislation.

For the past year, I have urged the necessity of a law regulating the sale and manufacture of bichloride of mercury, and for that reason I went to Albany and addressed the Senate Codes Committee at a hearing which was held on the bichloride bill. Not one medical society was officially represented. A dozen energetic physicians were on hand, simply as individuals, and if they had not been present, no one would have answered the charge which was made by a drug representative, accusing physicians of being the cause of the majority of bichloride deaths by leaving loose bichloride tablets at the homes of patients.

When a measure is introduced, relating to the medical profession, the senators naturally expect that physicians will be present at the hearing, to suggest necessary amendments. If representatives of the medical societies fail to appear, it places the profession in a bad light before our own legislators. There is but one way to meet this new condition of affairs. Every medical society should maintain a well-paid and efficient legislative committee, which should receive the active cooperation of every member. Physicians will then become interested and informed upon the important subject of legislation, thereby conserving the interests of the medical profession and at the same time keeping in line with the march of progress.

We sincerely hope that every reader of *CLINICAL MEDICINE* will take these remarks to heart. We want to remind you again—every one of you—that next year more than forty legislatures will be in session, and that many bills profoundly affecting our professional welfare will be introduced. Unless we are thoroughly alive to the situation it is safe to say that some bills likely to impair the physician's ability to serve his patients quickly and efficiently will become law.

TO THE MEDICAL GRADUATE

I feel like saying a word to that great throng of medical graduates who during the coming month will troop down the steps of their alma mater, with their hard-earned

sheepskins in their hands, and out into the world to earn their living.

To earn their living. Ay, there's the rub! For, this is the harsh, mundane truth that will force itself upon these ardent, idealistic young minds on the "day after." And here is where their real problem will begin.

I have no idea at all that anything I may say upon the subject will seriously influence any young man or woman who now is facing this life-problem—at all events, not directly. Advice is cheap, and is held cheaply. Young people have a way of working out such questions for themselves, in their own fashion, regardless of counsel; and it is just as well they should. No man can work out another's problems for him. Each man must live his own life, and make his own career, and the responsibility of choice and decision is, ultimately, with himself.

Nevertheless, we older men would not, for that reason, stand aloof, like the gods on Olympus, "careless of mankind." I, for one, can not—the memory of my own beginning is too green in my mind and heart—and, so, I am impelled to offer a word or two of friendly counsel, even though cognizant of the slight prospect of its being accepted. Perchance, after all, my words may help indirectly to influence the decision of some one seeing this, and to shape someone's course for good.

The problem confronting the beginner is not so simple or so straightforward as it used to be. In earlier days, there was but one thing to do, namely, to hang out one's sign as "Physician and Surgeon," ready for any and every emergency that might come along, and then sit down to wait for "it" to come. Those were the halcyon days of the family doctor.

Nowadays the problem is far more complex—so many possible courses are open to the would-be medical practitioner. Thus, a vast difference has arisen, for instance, between city practice and country practice: shall the young man locate in the city or in the country? Specialism has developed apace: shall he do general work or specialize—and, in what? Institutional medicine has opened up a new wide field: shall he start in private practice or connect himself with some medical institution? These are a few of the major conundrums.

As for my own view of the matter, specialism and institutionalism I consider a little overdone. There will be plenty of men and women whose course will inevitably lean, by force of circumstance, toward these specific phases of medical work, without any new

graduate deliberately choosing them. As a matter of fact, I feel that the time is ripe for a return to the old state of "general practice," carrying back into that state all the marvelous fruits of specialism and institutional medicine of which the modern medical student has reaped the benefit.

If this modern graduate can, in some way, bear in his person and in his training all the magnificent fruits of twentieth-century science and technic which the specialist and the institution have brought to maturity, and through his own individuality can make them current in general and family practice, then, indeed, he not only will solve the problem of his own career, but he will help to turn the tide of medical progress into those broad channels by which alone it can effectually benefit mankind.

How, then, shall the modern graduate carry out this idea? The answer is, by putting himself in the way of acquiring all the advantages of modern specialism and organization, and then putting himself equally directly in the way of translating them into general practice.

Consequently, I suggest that the young graduate, before he undertakes his life-work, make himself thoroughly proficient in every form of medical and surgical work that he is likely to encounter, either by attendance on a postgraduate course, or by a hospital internship, or by associating himself with some able and busy practitioner. Having, by such means, made himself thoroughly and broadly capable, self-reliant, and experienced, let him then locate in some small town, or even in some good rural district, and set himself to take care of everything that comes along; himself fitting up a small hospital or sanitarium, if necessary, or arranging with an already existing one for the care of his surgical cases, then referring to the specialist only those exceptional cases for which his own resources are inadequate, and, hence, legitimately belong to the specialist.

Such is my advice to the graduate of 1914, which, as I said at the outset, is gratuitous, and therefore little likely to be taken. Still, I believe it to be sound advice, in accordance with the signs of the times, and morally certain to bring success and prosperity to him who may deign to follow it.

DON'T FOLLOW THIS ADVICE

In our ultra-good journals we come across the advice not to pay any attention to literature received from manufacturing houses. We are told to throw it at once in the waste-basket. Don't

you do it. With all due modesty, I believe I may claim that I know as much of materia medica and therapeutics as any practicing physician in this country, perhaps as much as any member of the Council, and still I glance through every piece of advertising literature, for I receive many useful hints from them, many a useful new product or combination has been brought to my attention thereby, and I frankly state that I am indebted to the various great manufacturing houses for many a useful suggestion which was of great benefit to my patients.

Of course any physician with brains can see at once whether a piece of literature belongs to the quack or no-strum variety or contains a promise of something really valuable. It does not take much time to glance through a pamphlet or circular. No physician is too busy for that. Yes, if some of our doctors were not such prigs they would be more successful in the treatment of their patients. Moral: Don't be a prig.

With the above, as well as with many other good things said by Robinson in his inimitable *Critic and Guide*, we heartily agree.

To his pointed "don't be a prig" we would add, in emphasis: Do just what the ultra and "too-utterly-too-too's" advise you not to do, and for the very reasons given.

There is the man who measures everyone by his own erroneous conception of himself. In a position of authority he sets himself up as a sort of tin god to be adored and worshipped. He is extremely jealous of his authority. He wants to "know it all." He resents suggestions from any one, fearing that to accept them will lower him in the estimate of others. This man is usually prejudiced, narrow and bigoted, and, in dealing with others assumes a patronizing air. In rendering decisions he is apt to show the most unexpected politeness.

—Dr. Katherine M. H. Blackford.

NEW YORK'S NEW NARCOTIC LAW THE BOYLAN BILL

One of the most drastic measures thus far enacted into law is the so-called Boylan Bill passed by the last legislature of the state of New York and signed by Governor Glynn, which becomes operative on July 1, 1914. In framing this bill and pushing it through the legislature, Mrs. W. K. Vanderbilt, who has recently taken up sociologic work, was very active. The bill as originally presented was opposed by practically all the drug interests in the state. Unfortunately, the organized medical profession was not represented at the public committee hearings, so that, if it is unsatisfactory to the physicians of New York, they have only themselves to blame.

Without going into full details regarding the provisions of this bill, we may say briefly that it prohibits a retail druggist from selling chloral or opium, or any of the salts, derivatives, compounds or preparations of these drugs, except upon the written prescription of

a duly licensed physician, veterinarian or dentist. The practitioner is not permitted to write such a prescription except after a physical examination of the patient. The name of the physician, veterinarian or dentist writing the prescription must appear upon the prescription blank, together with his office address, his office hours and telephone number, also the name, age, and address of the person for whom the prescription is intended and the date upon which it was written.

There is one provision to the effect that domestic or proprietary remedies containing small quantities of the prohibited drugs are exempt provided they are "actually sold in good faith as medicines, and not for the purpose of evading the purposes of this article." Thus, for instance, if a proprietary medicine does not contain more than 2 grains of opium, 1-4 grain of morphine, 1-4 grain of heroin, 1 grain of codeine, or 10 grains of chloral, or their salts, to the ounce, it may be sold freely by any druggist to any person. It will at once be observed by every physician that this provision *legalizes* the use by the laity of the narcotic remedies when they occur in patent medicines, at the same time rendering it *illegal for the physician* to prescribe or dispense in tablet, pill or power form the same (or even minimesimal) quantities of narcotics which the druggist can with impunity sell over the counter, without restriction, in the form of patent or proprietary medicines. In other words, the medical profession has been grossly, yes, sinfully, discriminated against.

Under this law, physicians wishing to purchase any of these drugs must first fill out an official order-blank, serially numbered, and in duplicate. Also, every physician, dentist or veterinarian must keep a record of every person to whom he administers or disposes of in any way whatsoever any of the drugs enumerated in this law, and this record must in every instance specify the quantity of the drug employed; and these records must be preserved for a period of five years, and shall always be open for inspection by the proper authorities. It is, further, made illegal for any person to sell or give away to any person, except a duly licensed physician, dentist or veterinarian, any hypodermic syringe or hypodermic needles, except upon the written order of a licensed physician or veterinarian.

Habitual users of habit-forming drugs unless under the direct care of a licensed practitioner—upon complaint made to a magistrate, after due legal process, shall be committed to a state, county or city hospital

or institution licensed under the state lunacy commission. Finally, any physician, dentist, veterinarian, pharmacist or registered nurse who becomes addicted to the use of any habit-forming drug or drugs will be subject to a revocation of his or her state license and will be prohibited from further performance of the duties of his profession as long as he may be uncured.

This bill certainly is the most severe thus far passed by any state legislature. It puts drastic, and it seems to us unnecessary, strictures upon the medical profession.

We are curious to learn how many New York physicians actually knew anything about this bill while it was being discussed in the legislature. It is patent that the New York State Medical Society took no interest in it.

If such a law is satisfactory to the physicians of the state of New York, we have nothing to say; but to us it seems that bills of such vital importance to the medical profession should be thoroughly discussed by the members of our profession, all their advantages and disadvantages being carefully gone into, before they are permitted to be crystallized into laws. It is plain to us that laws of this kind will work needless—intolerable—hardship, to the sick more even than to the profession, and we are convinced that equally good results could be accomplished without such hardships.

In our miscellaneous department, this issue, read comments on a similar bill introduced in Rhode Island, reprinted from the *Providence Medical Journal*.

Only the ordinary man is put down and out by ordinary difficulties—the other kind sees in a profitable task only the chance to show what kind of stuff he is made of.

—L. C. Ball.

HEALTH FOLLOWS THE FLAG

Apparently we are on the eve of a Mexican war. Whether war comes or not, our troops are in Vera Cruz, which not so many years ago, from a sanitary standpoint, was one of the hell-holes of the earth; yellow-fever was endemic and every nonimmune who went to that city knew that he was likely to come down with the disease at any time. Malaria even now is rampant there—last year 15 percent of the deaths in Vera Cruz were from this cause. Another scourge of that country is amebic dysentery, which has been discussed so frequently in these pages during the last few months. Other prevailing diseases with which our military surgeons will have to deal

are cerebrospinal meningitis and typhus, both of which are constantly present in Mexico, and which may become epidemic at any time.

It is gratifying to know that we are now prepared to deal firmly and effectually with these tropical diseases; also with typhoid fever, which caused such a tremendous loss of life among our soldiers during the Spanish-American war. As the *Chicago Tribune* says: "The American army of occupation carries death in one hand and life in the other. Perhaps no body of men is better equipped to kill Mexicans with bullets and to save them from bacilli than the Fifth Brigade under Funston."

It will interest the readers of *CLINICAL MEDICINE* to learn that the chief of the health department of the American army of occupation is Major Frederick M. Hartsock, whose important contribution upon emetine hydrochloride in dysentery, appearing in the March number of *CLINICAL MEDICINE*, will be remembered. Joseph Medill Patterson, in an interesting article upon the health campaign already initiated by our men in Vera Cruz, describes Major Hartsock as being "middle-aged, rather bald, hook-nosed, temperamentally a promotor. He could sell shares in seawater gold to a national bank; but the line he carries is health to sick places, with bayonets for letters of introduction." He has served in Cuba, Puerto Rico, China, and the Philippines.

Associated with Major Hartsock in the work of cleaning up Vera Cruz, already a thing well-nigh accomplished, is Dr. G. M. Guiteras, who probably is the greatest yellow-fever expert in the world; which means, says Mr. Patterson, "the greatest mosquito-man, and therefore malaria-man, in the world." Guiteras already has a little army of forty young doctors and assistants who are covering with a thin film of petroleum all the stagnant water in Vera Cruz. These men will eliminate the mosquito, and with the mosquito will go the danger from malaria and yellow-fever. One difficulty which our army sanitarians are having in fumigating infected buildings is, the "open-faced" character of the construction, this making it hard to retain the sterilizing gases. Consequently they are resorting to a liberal application of whitewash.

By the inoculation of our soldiers with the typhoid prophylactic, the danger of an epidemic of typhoid fever has been eliminated. During the fourteen months in which we had 5000 men stationed at Galveston, all of whom were inoculated, there did not occur a single

case of this disease. Contrast this condition with what happened in 1898, when 2600 of our 12,000 men stationed at Jacksonville for four months contracted typhoid fever, and 180 of these died.

Thanks to the discovery of the specific action of emetine hydrochloride in dysentery, we now can safely say that this disease need not be feared in Mexico. Major Hartsock, as the readers of *CLINICAL MEDICINE* know, is thoroughly familiar with the importance of this valuable drug and prepared to see to it that every man requiring it is promptly treated with this potent agent.

Smallpox even now is endemic in Vera Cruz; but this no longer is a disease feared by our army: our soldiers are all protected against it. The city is being cleaned up as it never has been cleaned before, and as it is likely never to be cleaned again—unless, indeed, our army stays in Mexico; a consummation which, from a health consideration, it must be admitted, is devoutly to be wished.

"It is an effective contrast to see Major Hartsock at mess with his brother officers," says Mr. Patterson, "all in the same brown uniforms, indistinguishable from each other in manner or appearance, and to realize that *they* have come here to kill and *he* to save and, further to realize that, unless they had come for their purpose, he could not have come for his—and to realize, still further, that within a few years he and Doctor Guiteras will save more lives than the soldiers can take."

It is the knowledge of this fact—and there can be no question that it is a fact—that alone can justify the military occupation of Mexico.

Hard work is better than brilliancy. There is no person of whom I would have greater fear than the brilliant surgeon, and if it fell to my lot to undergo an operation, I should be careful to select a surgeon who is not brilliant.—Sir Frederick Treves.

MATRIMONIAL AGENCIES—WHY NOT?

Just now I have been reading of another arrest of a specimen of that meanest of swindlers, the man who fleeces lonely men and women looking for mates. This man answered advertisements of men seeking wives, using a female name; while, in the case of women desiring husbands, signing the name of a man. From each he managed to secure a small sum, aggregating about one thousand dollars a month, or more. Instances of this kind come into publicity so often that the phenomenon deserves consideration. It

points to a serious and easily remediable defect in our social system.

It is not good for man or woman to live alone. It is contrary to the policy and well-being of the State. It contributes largely to the gross sum of immorality, to the sacrifice of girlhood, to crime, depravity, dissipation, to all wrongs and evils that beset civilization. Every part of the country is thickly dotted with men who need wives and women who need husbands. Every matrimonial journal finds plenty of patrons, and a constant succession of rascals reap their harvests from these dupes.

The need is glaring; the remedy should not be difficult.

A man in his thirties, steady, temperate, without a bad habit, well bred, and holding a good position, told this writer that he had exhausted all his friends by visits, gone to places of amusement until they sickened him, and actually sat in his rooms evenings and wept for sheer loneliness. Multiply this man by thousands—tens of thousands—and then reflect that there is not a solitary legitimate means of bringing those men into acquaintance with the innumerable women from among whom they might select wives.

The Mormons recognized the evil, and provided the remedy. When a new settlement was made by the followers of Brigham Young, the first two public buildings to rise were the Tabernacle and the dance-hall. At the latter, the young people came together, formed acquaintances, enjoyed the pleasures suitable to their age, and all in a perfectly proper manner under the auspices of their parents, publicly, instead of that surreptitious meeting that is so surely followed by demoralization and disgrace. I am not advocating or condemning dancing; though personally I would rather see the young people waltzing under their parents' eyes than tangoing stealthily in secret and forbidden meeting-places. But what I contend for is the chance for the young to meet and become acquainted openly and with the sanction and under the eyes of their elders. Mating is as inevitable as for water to run downhill. Children, as a rule, grow up before their parents are aware of it.

The interests of law, order, morality, all demand that marriageable men and women should have the opportunity to come together and make their selections. If adequate means to meet this need were provided, we should have no more of such rascalities as that herein adverted to. It would not be out of the way for every journal to have a

matrimonial column, for the churches to take over some of the work, or for the municipalities to license proper persons or associations to conduct such agencies legitimately and honestly.

Honestly! How much is included in that word. Here is a woman who answers a matrimonial ad and sends a photograph taken twenty years ago—without seeing that when the deception is detected she will have destroyed her own chances for a happy life. The man claims to have so much property, and when married discloses his deceit, and so wrecks his chances; when, had he told the truth—or had she—the mating would have had some opportunity for success.

Though we must wait while others sow,
 Let us be glad for sowing.
 For fields that ripened row on row,
 And for all the good things growing;
 Though others reap where we must glean,
 We know the hidden meaning
 Of scattered grain and rows between—
 Be thankful for the gleaning.

—W. D. Nesbit.

THE MULTIPLYING USES FOR EMETINE

Within the last few months we have been printing a great deal concerning the uses of emetine. This increased publicity can not be ascribed merely to a revival of our interest in this old and useful drug, one which we have always esteemed highly, but, rather, to the fact that there has been more to tell about it. The medical journals, and especially the foreign ones, have contained more references to the therapeutic applications of emetine, during the last two years, than they have for the entire preceding forty-seven years, or since its isolation by Pelletier in 1867. Of course, this sudden and astonishing recrudescence of interest in the drug was brought about by Rogers' wonderful clinical work in Calcutta and his discovery that emetine is as clean-cut a specific for tropical dysentery as is quinine for malaria and mercury or salvarsan for syphilis.

I shall not attempt to review here what is being done with emetine in treating amebic dysentery. There have been a few failures, of course—that was to be expected—but they have nearly all been recorded in this journal; still, the failures have been so few in comparison with the successes, and the latter have been so brilliant and so overwhelmingly convincing that no clinician at the present time doubts the specific action of this drug.

It can now be asserted positively that in emetine we have a real cure for amebic

dysentery, and, while there may be occasional relapses in these cases, while there may be certain forms which resist treatment, we also know that practically every case of the amebic type of the disease, if not too far advanced, is susceptible of cure when the remedy is used intelligently and with persistence.

Another fact which the use of emetine is bringing to light is, the presence of many cases of amebic dysentery in our own temperate climate. Thus, Wagner tells us that he knows of at least 100 cases of the disease that have been under treatment in the Post-graduate Hospital of New York; and McCaskey writes that the disease is not infrequently contracted by persons who have never been south of the Ohio River. It is more than likely that in every community there are individuals who have suffered for years from a chronic diarrhea that has defied the well-planned therapy of many able physicians, and which in reality is consequent upon the presence of the *entameba histolytica* in the intestinal canal and therefore incurable until the right man comes along with the right drug.

In the light of what we now know about this drug's action, it seems to be the duty of every physician to give it a careful trial whenever confronted by a case of chronic dysentery, whether the ameba seems to be present or not; and this advice applies to physicians living in temperate climates quite as much as to those practicing in our southern states.

Nor is amebic dysentery the only disease that yields to emetine. Mayer has shown (see *CLINICAL MEDICINE*, May, 1914, p. 427) that dysentery caused by the presence of the *lamblia intestinalis* also responds to the same remedy. Major Schmitter, of the U. S. Army (see *Military Surgeon*, April, 1914, p. 330), is using the drug successfully in the treatment of sprue. He reports six cases that were relieved or cured with this drug.

Most important to American physicians, however, is the demonstration of the remarkable antihemorrhagic action of emetine, first pointed out by a French physician, Professor Flandin, and afterward verified by such brilliant clinicians as Chauffard and Dopfer. Flandin found that, when emetine was given in the treatment of amebic abscess of the liver, the bloody character of the discharge disappeared. Remembering that Trousseau employed ipecac with success in the treatment of hemoptysis, he determined to try emetine, in the treatment of this complication, upon the first opportunity that might arise. Not only did he try it in one case, but in many; and

he found its action uniformly so good, often so marvelous, that he has been advocating its more general use. Flandin's favorable results have been verified by many other practitioners, who have found it effective, not only in hemoptysis, but also for the relief of other forms of hemorrhage.

It was not to be expected that it should succeed in every instance, nor has it so succeeded. In hemoptysis, for instance, emetine seems to be of more service in those hemorrhages occurring during the early stages of tuberculosis than in those of the terminal stages. Rarely, however, does it seem to fail entirely, and many are the cases in which the hemorrhage is stopped almost immediately.

Read, if you have not already done so, the experience of Dr. C. S. Cope, published on page 352 of the April number of *CLINICAL MEDICINE*. A recent contributor, Dr. A. N. Mc Cuister (see another page of this issue) has found it successful in the severe hemorrhages of typhoid fever. Dr. J. B. Ross was able to control the umbilical hemorrhage of the newborn. Dr. J. P. Prestley (*N. Y. Med. Jour.*, p. 905) has found it good in epistaxis, having controlled it in twenty minutes in a woman who had had nosebleed every night for ten days.

Of the employment of emetine as an expectorant we have space to say nothing—and yet in this field it gives some of its most brilliant results. More about that phase next winter.

All of this experience indicates that we are only just beginning to learn something about the real therapeutic values of emetine—which seem far more extensive and fundamental than suspected. Its pharmacologic action we do not understand fully as yet; no satisfactory explanation has been given, for instance, as to its power of controlling hemorrhage. We do hope, sincerely, that the readers of *CLINICAL MEDICINE*—the thousands of men who, like ourselves, are interested in the exact, truly scientific methods growing up from the use of the alkaloids and other active principles—will join in an effort to determine more accurately the field of this drug, all its possibilities and limitations.

INTESTINAL INFECTIONS OF INFANTS, AND FEEDING

I suppose that in no department of pediatrics has our viewpoint undergone such a complete change within the last few years as in that of infant feeding, and its relations to intestinal infections. And, if I should be

asked to express the net sum of these changes in a single sentence, I should be disposed to say that it consists in the transference of our attention from the milk to the child. Under this new attitude, the milk can no longer be regarded as the prime factor in the etiology of acute infections, but, instead, we must look to the intestinal tract itself and its flora to explain the trouble, particularly in the heated season of the year.

There are present, of course, and must be reckoned with, several physiologic peculiarities in the infantile intestinal tract, such as the shortness of the gut itself, its muscular weakness, the deficiency of ferments, the delicate sensibility of the mucous membrane and its vulnerability to mechanical and chemical irritation, not to mention others. The most important consideration, however, and to which all the others are merely tributary, is the peculiar character and behavior of the bacterial content of the intestine of the infant.

The child is born with a practically sterile gastrointestinal canal; which however, within a few hours after birth is flooded with a multitude of numbers and species of microbes that find a ready entrance through the oral cavity, and an unhindered passage into the intestine because of the weak bactericidal power of the gastric juices. Of course, some of these bacteria play (or are believed to do so) an important part in the digestive processes.

All of these intruders may be said to be normal, in the sense that as long as they are undisturbed they do no harm. Indeed, they may be regarded as normal in a still more important sense, inasmuch as for so long as the quality and the quantity of the child's food is normal to the child's age and demands, these bacteria will *not* be disturbed. However, a change—often a very slight change—in the normal quantity or quality of the diet very quickly brings about such a disturbance in the character and distribution and behavior of the intestinal flora that they cease to be normal, many of them now becoming pathogenic. Species which before were benign become highly malignant; normal types, while retaining their physiologic character, lose their power of resisting pathogenic invasion; or they disappear altogether and give place to pathogenic types. In this manner, the net aspect of the entire bacterial field is changed from a benign to a malignant virulence.

All this may be brought about, and it often is, by any sudden or considerable change of diet, either in quality or in quantity. In a

child transferred from human to cow's milk, within twenty-four hours the normal intestinal flora of one breast-fed gives place to an intestinal vegetation characteristic of cow's milk; which may, or may not, give rise to serious disturbances of health, according to the child's resistance. A change in the quality of artificial feeding milk from a different cow, for example—while it will not cause such a qualitative change in the flora, it, yet, will induce the relational changes described above, often precipitating an infection. And even a change in the amount of food, a simple matter of overfeeding, is sufficient to bring about the disturbance, especially in hot weather, when resistance is low.

To summate, it may be taken as axiomatic that, as long as the normal bacteria retain their physiological integrity, there will be no pathogenic invasion, and, therefore, no intestinal infection.

In view of these well-established observations, it is clear that the underlying cause of infantile intestinal infections, in the great majority of instances, is a change of diet, either as to quantity or quality.

This does not mean, to be sure, that the pathogenic germs in the milk itself do not play an important part in the causation of these infections. Our former view of the matter, which laid *all* the blame on the milk, led us to look sharply after that feature; and there is no intention of going back on what has been done in that direction. Still, "new occasions teach new duties," and we find that we have not yet solved the problem. Within reasonable limits of cleanliness, it is not so much a question of the bacterial content of the milk, as it is one of feeding as nearly as possible to normal, and avoiding changes both of quantity and quality of the aliment offered.

This, then, is the keynote to modern prophylaxis in infantile infections: (1) to maintain normal feeding, as nearly as possible; which is to say, to adjust the artificial feeding as nearly as may be to the conditions that would prevail in natural feeding proper to the age and weight of the child; (2) to avoid all sudden or any considerable changes in the quality and quantity of the food.

The first requirement is generally well understood and carried out. The second, which is not so commonly understood or practiced, involves equal care to insure *uniformity* in the source of milk, and to guard against overfeeding. It is worth remarking that not infrequently the very measures adopted to make milk sterile defeat their own

purpose and actually bring about infection of the intestine. Pasteurization, for instance, if it be overdone or if the process be not uniform from day to day, may so vary the physical qualities of the milk as to precipitate the very infection it is designed to prevent. Needless to say that the loading of milk with formalin is still more likely to cause trouble.

I have watched the lily with the sunset fade, and the cloud-rifts shadow the icy glade. I have touched the zones that nature can; but never once lost my faith in man.—The Silent Partner.

AS TO COLLECTIONS

Summer is on us and the physician, in common with all the rest of mankind, will wish to take a vacation, along with his family. We venture the guess that not a few will be embarrassed and inconvenienced in so doing or the vacation even curtailed, by the fact that many of their clients are still on the delinquent list for services rendered to their families, when the bills ought to have been paid long ago. If he is not positively prevented from taking a vacation, the doctor will be put to the annoying necessity of asking, for the time, the credit which his delinquent patients get by "French leave."

Now, doctor, is an excellent time to get after those long overdue bills. Although we speak a little bitterly of those who allow these accounts to run—and we confess it makes us a little hot under the collar when we think how strenuously the doctor, and especially the country doctor, earns his fee—yet, we realize that it is an evil that is wrought from want of thought more than from want of heart on the part of the guilty debtors. As a matter of fact, these folk do not realize the gross injustice they do the physician; indeed, oftentimes it must be confessed that the doctor does not take the pains to make the people realize. They always feel that a "more convenient season" will come—that they will be a little more flush later on; and, as long as the doctor does not bother them, they procrastinate. And while the slowpay procrastinates, the doctor "holds the bag."

To repeat, this is a good time of the year to strike such folk. In the spring, there creeps into the human family a feeling of more or less brotherliness and consideration, which makes every one rather more thoughtful of others than usual and more sensible of his obligations to his brothers. Money gets a little looser about this season and is easier to get. For these reasons, if the doctor will take the opportunity to bring his claims be-

fore his delinquent debtors in a tactful yet insistent fashion, he will, no doubt, be able to collect a goodly percentage of the outstanding accounts; and he will feel better, and the debtor will feel better, and there will be an all-around more equitable distribution of the blessings of summer.

So much has been said, and re-said, on the subject of collections that we feel it to be a trifle threadbare. Yet, at the risk of iteration—nay, because of the power of iteration—we urge upon our readers the wisdom of regular and business-like collections of bills. No real good accrues to any of the parties concerned from neglect in this matter, but, rather, quite the reverse. The longer a bill runs, the harder it is to collect, so that, while a patient who pays his bill promptly does so with a feeling of value received, if not of positive gratitude, the one who allows it to remain unpaid for weeks or months after the termination of the service actually comes to feel aggrieved and resentful at being expected to pay at all.

Allowing a bill for service to remain unpaid is exactly the same as loaning the debtor money. The instant the work is done, the service rendered, the debt accrues to the physician as an economic asset; that is, it represents his power and his right to an equivalent service or commodity in the open market of the community. That he does not demand cash payment, is merely one of the amenities of business and a professional courtesy. The money is his, just the same, and whoever keeps him out of it is in possession of that which does not belong to him. All of which, of course, every physician knows just as well as we can tell him, only we reiterate it for the sake of stimulating him to the same alertness on the subject that the business man exercises.

Of course, if you "get the money" you will "pay up" on your accrued subscription account. Why not make it five dollars for three years of CLINICAL MEDICINE?

TREATING THE CYSTITIS OF OLD MEN

There is a form of cystitis that deserves especial consideration, differing, as it does, from the ordinary forms in etiology, course, and particularly in treatment. A typical case:

A man seventy-seven years of age for years had been conscious of a growing weakness of his bladder, the impulse to urinate becoming more pressing and frequent, the discharge

slower in beginning, and the stream weaker and ending in a dribbling that wet his clothing if he did not take unusual time for its completion. The urine became darker, offensive, and, without his realizing it, the bladder became distended.

One day he was seized with a chill, intense burning and tenesmus in the bladder and inability to discharge the urine; low but continuous fever; debility, anorexia, and constipation followed. The urine was withdrawn with the catheter for some days: it was thick, red, filled with pus. In the night he had to rise every half hour to empty his bladder, and this with great distress. He could take but little food, and this had to be of the simplest description.

Diagnosis: cystitis from retention, the invading microorganisms coming from within, as no instrument had been introduced into the viscus.

Three indications presented themselves: to give rest, to maintain nutrition, and to subdue the very intractable inflammation despite the fact that the causal conditions continued.

To quiet the bladder and permit several hours' consecutive sleep, with the least possible interference with digestion or vesical peristalsis, the man was given morphine and hyoscine at bedtime. This afforded five hours' healthful sleep, from which the patient awoke so much better as to confirm fully his faith in his medical adviser. This dose was repeated every third evening, so as to avoid formation of habit, and to allow nature to reassert its sway.

To maintain nutrition: The patient took a peristalsis-aider I often employ in treating the maladies of elderly men, the happy combination of strychnine, physostigmine, berberine, capsicum and juglans. This favored intestinal activity and did not seem to increase vesical irritation to any appreciable degree, so that no further laxative was needed, although for a week a daily hot enema was employed to clear the large bowel of accumulations.

Food was ordered of the most nutritious forms compatible with digestion—soused meats, raw oysters, eggs, beef, rice, soups, buttermilk (he disliked milk), *café au lait*, chocolate, egg beaten up with sweetened milk. All irritants—alcohol, spices, condiments—were forbidden. Oatmeal-gruel was urged to be drank freely. The foods he took every four hours, with nutritious beverages in the intervals whenever he felt a desire for them.

For the direct attack upon the cystitis I relied upon a single remedy, arbutin; a grain of this given every two hours while the patient was awake. The effect of this glucoside is not manifested until at about the end of a week's steady administration; but by that time the patient is satisfied, and the relief is such that he does not have to be urged to continue its steady use. The arbutin should be continued as long as a trace of pus is detected in the urine. However, the pus steadily decreases, the vesical irritability lessens, and the muscular walls of the viscus regain their powers of sensibility and contractility. Indeed, the arbutin may be continued for a year or more, with benefit and absolute impunity.

The difficulty is first to induce the patient to discontinue his liquor, and usually he prefers to change his doctor for one more complaisant; but the suffering is so severe that this obstinacy soon cures itself.

These cases are common enough to make them worth considering. The genius of the profession has expended itself on gynecology, on the eye, on children, on the rectum; but the old man has had few to care for or consider him.

WORK FOR THE OLD MEN

Never again shall we criticize the farmer who does not "tidy up" his farm or attend to the little things. Take the real farmer—not the one who spends precious hours loafing about the village store or the barroom, but the one who stays on his farm and works it, never leaving except when compelled to do so. Take such a man, and his every available hour, every gray cell and muscular fiber of his body is completely engrossed with the major work of the farm—plowing, planting, irrigating, care of stock and farm-machinery, work without end.

There remain innumerable things that the farmer simply can not do, as, for instance, clearing up trash, dead leaves, grass and weeds; picking up waste wood, using the usable pieces and converting the rest into fuel; trimming trees; making hotbeds and hens' nests; mending fences; clearing and banking irrigating ditches; cutting bean-poles and pea-brush; whitewashing; the gardening—and lots more. For, let it be known, in this favored Yakima Valley, cultivation was in full operation in February; while the East was engulfed in the early March blizzard, we were setting out rose-

bushes and pansies and sowing for early vegetables.

The farm is the food producer. Here we reach the lowest cost of living, eliminating all costs of transportation, middlemen and endmen, jobbers, wholesalers and retailers. Milk, butter, eggs, chickens, pork, veal are ours for the cost of production: garden-vegetables, for the trouble of raising; fruit, for the picking. And the best of everything—possibly there may be pork equal in flavor to this alfalfa-fed product, but even the favored Beechnut brand does not approach it. I was incredulous when Doctor Sudduth made this assertion some time ago, but now I know it.

Personal expenses reach the minimum here. Old clothes are better than new. The little drains that melt away a V so swiftly in the city are absent. These summer-warm days alternate with cold evenings and frosty nights, but a wood-stove quickly warms a room—and fuel for it costs nothing, and gathering it saves the expense of coal.

Besides the little odd jobs indicated, there are a host of others constantly recurring on a farm, when the presence of an old man, old and feeble but yet able to putter about, saves taking the farmer from his proper work.

In another way the superannuated man may be of value on the farm. Many of the weeds have commercial value—but the farmer has no time to gather and cure them. The old man about the house can do this, as it involves little expenditure of force and he has the time to do it without exhausting hurry.

Then there are patches to wooded land where he may plant golden-seal. The root is worth cultivating. The roof? With hydrastine at present prices, every particle of the plant should be saved for its extraction. Still more, every catalog from the seedsmen and every periodical devoted to agriculture tell of new crop-plants and new varieties of the old ones, of new fruits and new strains calculated to withstand climatic conditions fatal to the ordinary sorts. Much of this is error, of course, but how is the farmer to find time to try these things? Give the old man the samples of seeds, and so on, and a strip of garden. He can try all these things and let the farmer see the results. Let the fence corners be devoted to his berries instead of the usual weeds; the ditches to cresses, the rough cleared lots to nut-trees, the corners of the chicken-yard to guinea-hens, rabbits, Belgian hares, conies.

Leading Articles

Epilepsy and Its Treatment

Illustrating the Use of Snake Venom

By HARRY W. KEATLEY, M. D., Huntington, West Virginia

Assistant Superintendent, the West Virginia Asylum

EDITORIAL NOTE.—No much interest has been expressed in the treatment of epilepsy with rattlesnake venom, and there has been such wide variation in the results obtained that we are very much pleased to publish Doctor Keatley's careful and interesting report of experience with this substance in a large state institution.

SINCE before the days of Hippocrates, epilepsy—commonly spoken of as “fits”—was known to the world as a great scourge. Among the ancient physicians, this malady was not looked upon as the severe disease or the incapacitating trouble that it is at the present time. Hippocrates, in his writings, speaks as follows of the outcome of epilepsy:

“If it attacks little children, the greater number die. If youths and young adults, recovery may take place, but there is danger of its becoming habitual, and even increasing, if not treated with suitable remedies, such also is the case when it attacks young children. When a person has passed the twentieth year of life, it is not likely to seize him.”

Few people realize the extent to which epilepsy is prevalent, but, in the United States alone, it is estimated, there are approximately 250,000 sufferers. A great majority of these victims are cared for in institutions supported by public moneys, great colonies of these unfortunates being gathered together in hospitals maintained for their care and treatment.

The approximate cost in state institutions, per capita per year for the maintenance of these epileptics, seldom falls below \$130. Figuring at this per-capita rate, the amount of money spent in the United States alone aggregates the enormous sum of \$32,000,000. Fifty percent of all epileptics are unable to follow any occupation, and, therefore, sooner or later become public charges, while from 25 to 40 percent are self-sustaining for from one year to several years after the disease first shows. Even in the case of those in whom there is no impairment of the mental

faculties, the knowledge that one is a sufferer from epilepsy, no matter how mild or infrequent the attacks may be, suffices to make the epileptic an unwelcome person in the commercial world; the unreliability of the constancy of their services rendering hazardous to themselves, and perhaps to others, many occupations.

The causes of epilepsy sometimes are practically unknown, but two factors are of great importance, the first of which is, the inheritance of instability of the nervous system from ancestors who have suffered from some form of nervous disease or who may have damaged the nervous system by the abuse of alcohol or by other excess; secondly, the patient himself may be an alcoholic. Fright, mental excitement, injuries to the head, intestinal worms, and teething in children frequently are the cause. The intermarriage of epileptics as well as of other mental defectives should be absolutely prohibited, since children of such unions are liable to suffer some mental defect.

The varieties of the disease are so many that it is impossible here to do more than describe the main type in its severe, slight, and irregular forms.

In severe forms—called *grand mal* by the French—the patient may, without warning, utter strange and inarticulate cries and fall suddenly to the ground, unconscious; he becomes deathly pale; his body is rigid, with the back arched and the features set, and he ceases to breathe. Soon the color changes, the face becomes a livid-purple, the veins of the neck swell up and pulsate, the eyeballs protrude, a gurgling sound is heard in the throat, and death seems imminent; but al-

most immediately breathing begins again and the whole body is thrown into a series of convulsive twitchings. The trunk and limbs are thrown about in various ways, the face is hideously contorted, the tongue is jerked out between the teeth and often bitten, the jaws are convulsed so that the teeth sometimes are broken.

After about two or three minutes, the convulsive movements cease, leaving the patient comatose for a time. He then opens his eyes, looks around with a dazed expression, then may go to sleep. On awakening, he is quite unconscious of what has happened. He may have a severe headache and be morose and irritable. Sometimes a condition of homicidal mania follows the fit, when the patient attacks anyone whom he may see. As a rule, the fits are separated by intervals varying from a few hours to several months. A very grave condition sometimes supervenes, called the status epilepticus, when one fit succeeds another before the stage of coma has passed off.

The attacks may be preceded by a distinct warning—the aura, as it is called. There may be peculiar sensations, such as flashes of light, strong odors or a tingling in the fingers or toes or a twitching of a group of muscles. The mental condition of epileptics between attacks varies much. In about one-third of all cases, the mind seems to be unimpaired. Napoleon Bonaparte, Peter the Great, Mohammed, Julius Caesar, and even Paul the apostle himself are examples of epileptics with highly developed mental faculties. Very often there is an uncertainty of temper or criminal tendencies. The mental deterioration seems to be influenced more by the early appearance, and duration of the disease and by the frequency of the fits, rather than by the severity of their form.

Epilepsy is legion, as it exists the world over, affecting the rich as well as the poor; and no race is exempt. In many instances insanity is a sequence to this disease.

Epileptics Victims of the Quack

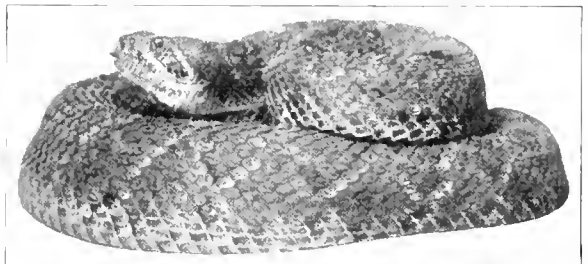
Those afflicted with epilepsy have, for many years, been the victims of unscrupulous medical men and quacks of all sorts; patent-medicine venders have made millions in the nefarious sale of fit-cures. Their stock in trade is impudence and mendacity, and their clientele, the gullible. Their glaring, lying advertisements of "sure cures" have buoyed

the hopes of the credulous for a time, only afterwards to find that they have been robbed, and who finally turn to some state asylum, where a few are annually discharged as cured.

There are a great number of remedies that have been used empirically for time immemorial. The salts of bromide have been used in the treatment of epilepsy for years. However, no one drug, nor any combination of drugs, has proven a specific in the cure of epilepsy. Many patients have improved under the use of the bromides and other drugs, the frequency and the severity of the attacks being lessened, and sometimes cures are brought about by the combination of medicinal, hygienic, and dietetic treatment; still, as has been stated, the percentage of complete recoveries is very small.

Snake Venom as a Promising Remedy

For several years past the venom of different snakes has received attention at the hands of European investigators. Even as early as 1843 Prince Lucien Bonaparte made a chemical analysis of snake venom, showing that it was albuminoid in its nature; and, perhaps twenty years later, one of our own eminent physicians, the late Dr. S. Weir Mitchell, of Philadelphia, began analyzing the venom of rattlesnakes. He demon-



The American rattlesnake—the King of Diamonds

strated its proteid nature, and, before his experiments were finished, he found that it consisted, not of one, but of several proteids, two of these globulin and peptone, seeming to predominate. Dr. Henry Sewall, of the University of Michigan, later began a series of experiments on doves, with a view to causing them to become artificially immune against snake bites, and his conclusions prove that, by repeatedly inoculating with sublethal doses of venom there was produced a resistance against the effects of snake bites, without any apparent influence on the general health of the subject. At the present time, in Brazil, there is maintained an insti-

tution where antivenom inoculations are made. Here, horses are injected with the venom of the most poisonous snake, later a serum is obtained from these horses, which imparts immunity against the effects of snake venom.

However, quite recently partly through accident and partly through scientific research the venom of the *crotalus atrox*, or the American rattlesnake, was brought to

be overcome by a paralyzing fear. The rattling does not lure prey or attract mates, as generally is believed, but is rather a reflex expression of excitement. The snake is naturally sluggish and prefers defensive to offensive tactics, except when on the track of rabbits, rats and other small animals, which seem to be its natural prey.

The *crotalus*, or rattlesnake, has a long fang, located on each jawbone, which is perforated by a canal down which the poison secretion of a modified salivary gland flows when the rattler strikes. Behind each fang are several reserve-fangs, which replace it should it be broken—a not infrequent result of the bite. The opening of the mouth also brings about the erection of the fangs, which are folded back and ensheathed when not in use. Stretching over the poison glands is the origin of the muscle which moves the lower jaw; and by the means of this and of other somewhat complex arrangements the gland is automatically compressed when the snake opens its mouth to strike. The fluid, which is formed in these glands, is forced out along the fangs and is clear, viscid, of acid reaction, and very poisonous; the toxicity varying according to the species and also with the vigor of the snake. Injected through the fangs into the blood of a victim, the venom tends to



Rattlesnake 9 1/2 feet long

the notice of the medical profession as a cure for epilepsy. It seems that an epileptic, sorely tried and greatly worried, from the fact that he was the victim of frequent severe seizures, wandered into a valley of the Southwest and there was severely bitten by a rattlesnake. A party of hunters, among whom was a physician, heard the cries of this unfortunate and immediately went to his rescue. When the man fully recovered from the snake bite, he subsequently discovered that he had been made free from his epileptic attacks, of which he had been the victim for years. These facts led to an investigation of different venoms, with special reference to the treatment of this dread malady.

Description of the Venom-Snake

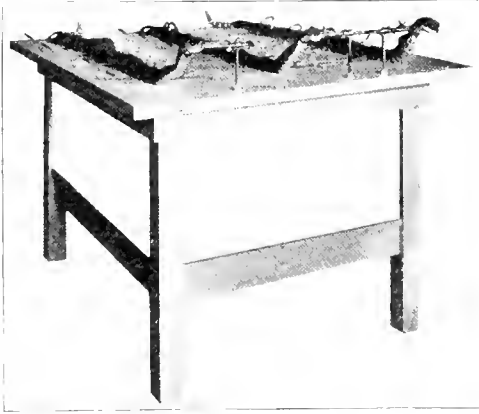
A brief description of the snake from which this venom is obtained is, perhaps, not amiss at this point; but here let me say that not a few ideas about rattlesnakes must be dismissed as false. Thus, the common belief that birds and mammals are hypnotized by the rattler is erroneous; they may, however,



The old and dangerous way of milking the venom

paralyze the nerve-centers. It is most effective on birds and mammals, less so on cold-blooded animals.

As the venom-glands of the snake gradually fill up after being emptied, the captive snakes are used only at intervals of not more than one or two months, and not then unless they are



On the operating table, ready for the milking

in perfect health and feed well. Four or five months is about the average length of time that the reptiles remain in good condition.

How the Venom Is Procured

Two or three laboratories for the collection and preparation of snake venom for scientific purposes have been established in this country. In connection with the laboratory is usually an ophidium, or snake-den, where live rattlesnakes are kept under conditions similar to those existing in their native wild state. Their food consists of various small animals, such as rabbits, mice, guinea-pigs, which are kept for that purpose. However, it frequently happens that these snakes devour one another.

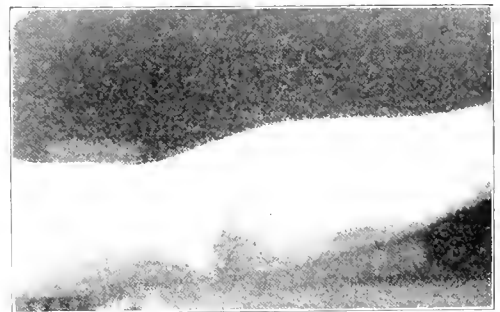
From these laboratories a scientist is occasionally sent to southern Texas and Mexico, who organizes parties of Mexican snake-hunters. These parties consist, generally, of four or five persons.

Various ways of hunting and capturing these snakes are employed; experience, of course, being a valuable asset to the hunter. Sometimes dogs are used to locate these reptiles. When a dog finds one of the snakes, he commences barking and jumping about, being careful to keep out of striking distance; meanwhile one of the party may quickly tap the snake slightly on the head, stunning him. The reptile is quickly transferred into a canvas bag.

Some of these hunters become so expert at their work that often they can pick up a snake and bag it ere the latter has time to strike. It frequently happens, though, that these reptiles make a valiant fight, and when this does occur any method calculated to effect its capture is resorted to, of course; still, not infrequently a single large rattler will rout an entire party. As these snakes grow to an enormous size (some as large as eight or nine feet in length being captured), they make formidable antagonists, and not infrequently, in spite of all precautions, the hunter is bitten. In a large percentage of cases rattlesnake bites are fatal, although immediate treatment may prevent death.

Various methods of obtaining the venom have been devised. One of the plans in practical use at present is, to fasten the snake to a specially devised table, the neck being held by an elevated clamp. The operator then causes the snake to open wide its mouth by drawing his finger backward under the lower jaw of the snake, when the mouth is cleansed by means of spraying. This done, the snake is induced to bite on a shallow sterilized glass capsule, which catches the discharging fluid. One former method of obtaining the venom was for one operator to hold the snake while another held a saucer-shaped dish on which the snake bit.

After the venom has been carefully evaporated to dryness, it forms a scaly substance of amber color, readily soluble in glycerin and in normal salt solution; and it is now ready for commercial purposes. In making solu-



A badly swollen arm

tions of this dried venom, the greatest care is imperative as to asepsis. After adjusting its strength, the solution is sealed in ampules, holding 1 cubic centimeter each. It is customary to prepare solutions of different dosage. The size of the dose to be injected must be determined for each individual, the usual

minimum quantity being 1-200 of a grain of the scaled venom.

Mode of Administration and the Therapeutics

It is customary to inject this solution deeply into the muscles of the arm or the leg. We have generally used an all-glass hypodermic syringe and a small platinum needle, and, in making an injection, we hold the syringe at an angle of about sixty degrees.

After injection there is a feeling of burning, stinging pain, and swelling occurs at the point of injection and in the surrounding tissues. The pain is of a short duration and of only moderate severity. The swelling seems to commence shortly after the introduction of the venom into the muscles, and sometimes becomes quite extensive. However, within from twenty-four to thirty hours the swelling seems gradually to subside, so that in three or four days the part has returned to normal. Abscesses or serious complications never have been observed; ordinary precautions, of course, having been taken to avoid infection. Sometimes, when the swelling became severe, we have applied a lotion of lead and opium, or of epsom salt, which seemed to alleviate it.

In making these injections, we usually select a site at the insertion of the deltoid muscle, which is prepared by cleaning with tincture of green soap and with alcohol. The needle and syringe are sterilized before each injection. The contents of the syringe are expelled slowly into the muscles, and, upon withdrawal of the needle, the prick is sealed with a drop of flexible collodion. Generally we are guided by the character of the epileptic attacks as well as by the local reaction as to repetition of the dose, the intervals usually being from four to six days.

When reaction fails to appear following a certain dose, its size is increased at the next injection. However, in some cases, even after the injection of large doses, we have failed to get any reaction whatever. We have noticed that in some of these cases there is a great variation as to the local reaction; for, at times a very small dose will cause much local reaction, where in the same patient a large dose will only give a slight reaction. In other patients this may be reversed. This fact shows either a lack of uniformity in the strength of these solutions, or the susceptibility of the patient for the venom may be subject to changes during a few days.

Number	Sex	Age	Occupation	Family history	Personal history	Duration in years	Total number of injections	Minimum dose	Maximum dose	Average monthly attacks—before	Average monthly attacks—after	Character of seizures since treatment
1	M.	29	None	Negative	Negative	13	20	1-150 gr.	1-12 gr.	4	7	Same — Mental and phys. con. impaired
2	M.	36	Miner	Negative	Negative	11	20	1-150 gr.	1-12 gr.	12	2	Lighter
3	M.	15	None	Negative	Negative	2½	20	1-150 gr.	1-12 gr.	4	1	Lighter—Increase wt 16 lbs. in 2 weeks
4	M.	30	Farmer	Grandmother insane	Negative	30	20	1-150 gr.	1-12 gr.	4	13	Same
5	M.	34	Farmer	Negative	Negative	20	19	1-200 gr.	1-12 gr.	1 in 2 mos.	1 in 2 mos.	Same
6	M.	46	Iron Worker	Negative	Hard Drinker	15	20	1-150 gr.	1-12 gr.	12	2	Lighter
7	M.	35	Farmer	Negative	Negative	21	16	1-150 gr.	1-12 gr.	8	5	Same — Mental and phys. con. impaired
8	M.	32	Farmer	Blood Relation	Negative	17	19	1-150 gr.	1-12 gr.	4	1½	Same
9	F.	24	None	Negative	Negative	15	20	1-150 gr.	1-12 gr.	12	15	Same
10	F.	21	None	Negative	Negative	7	20	1-200 gr.	1-25 gr.	4	7	Same
11	F.	18	None	Negative	Negative	18	20	1-150 gr.	1-12 gr.	12	15	Same
12	F.	30	None	Negative	Negative	10	19	1-150 gr.	1-12 gr.	4	1½	Same
13	F.	17	None	Mother epileptic	Negative	7	20	1-150 gr.	1-12 gr.	8	8	Same
14	F.	38	None	Negative	Negative	7	19	1-150 gr.	1-12 gr.	8	7	Same

TABLE SHOWING CASES TREATED WITH SNAKE VENOM

The duration of treatment in any one case depends entirely upon the severity and frequency of the attacks, it being desirable, of course, to continue the injections as long as the patient continues to improve.

Results of Venom Treatment

In three of our cases, improvement was observable from the very first dose; in others, no improvement was shown until after repeated injections; while a majority of the patients treated have given no evidence of improvement. Where any improvement at all has been noticed, it has been in the men.

I attach a table showing in condensed form the histories of 14 cases treated with the snake venom. All of these cases were idiopathic epilepsy; all were cases of grand mal; and all had been for a longer or shorter period on the classical treatment, including bromides. Treatment was begun on November 6 in all these patients, with the exception of cases 5, 8, and 12; in these treatment was initiated on November 12, 17, and 12 respectively.

It has been shown by Dr. John Turner, in *The Journal of Mental Sciences*, that the average rate of coagulation of the blood is increased in epileptics, and that just preceding a seizure the coagulation rate is higher. This has been confirmed by other investigators, who are convinced that there obtains a rapid coagulability of the blood for many hours preceding a major attack. Mitchell and Reichart express the opinion that snake venoms lessen the rate of coagulability of the blood. It would appear, therefore, that, if the coagulability of the blood is increased during an epileptic fit, and that the venoms prevent and retard coagulation, this fact may in a measure explain the results obtained. We also have noticed that during an attack of fever the epileptic generally is free from seizures. As to this, it is asserted by other observers that the coagulability of the blood during fevers generally is retarded.

Contaminated Preparations

Examination of a recent report by John F. Anderson, of the Hygienic Laboratory, shows that 38.8 percent of the 95 ampules of snake venom lately examined by him were found contaminated, in many instances with anaerobic organisms. In view of this fact, it

would seem that, as the subcutaneous injections of venom reduce the normal bactericidal power of the blood-serum, there may be great danger of serious harm resulting from injections of contaminated venom solutions.

In one of our cases, the patient immediately after the first injection of venom became almost maniacal, with pupils dilated, quickened pulse, a very slight rise in temperature, and a slight increase in respiration. This condition remained this way for about twelve hours, when the subject returned to normal, and has had no recurrence of these symptoms from subsequent injections.

In another case, symptoms of mania, with increased temperature and pulse, occurred after the second injection; the patient remaining in this condition for several days. It has been noticed in several cases that immediately after the beginning of the use of snake venom the number of convulsions have increased for a short time. However, at no time have any of the patients under this treatment been in any serious physical condition.

In conclusion, I wish to state that, from our experience with the use of snake venom in the series of 14 cases, covering a period of four and one-half months, one patient has been greatly benefited as to number of seizures; that in three cases the character of the seizures have been changed from a severe to a lighter form; that in 11 cases there has been no change whatever in the character of the seizures, and that out of the 14 cases, averaging 97 attacks per month before the use of the snake venom, the monthly average has been decreased to 87, making a reduction of 10 seizures a month. This reduction is divided among 7 cases—or, the reduction on the whole has been less than one seizure for each patient.

Hence, the severity of the local reaction and the unpleasantness due to the general reaction, coupled with the results obtained from its use, and, aside from the fact of the possibility of infection (as shown by Anderson's report), would suggest to our minds the discontinuance of snake venom as a routine method in the treatment of epilepsy. However, in specially selected cases and where the snake venom is freshly prepared and absolutely sterile, the use of the venom should certainly be given a trial.



The Diarrheal Diseases of Infancy and Childhood

How to Treat Them Successfully

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE. Doctor Candler is a favorite with the readers of this journal, who will all enjoy his iconoclastic remarks and practical conclusions about the diarrheas of childhood. His paper will be complete in the July issue.

THE busy physician who has to meet as best he can the exigencies of general practice, after attempting to assimilate extremely prolix scientific papers presenting entirely different theories as to the cause of the diarrheal diseases of infancy and childhood, is likely to throw up his hands, deciding to content himself for a while with differentiating cholera infantum (which, though, the country doctor rarely encounters) from "summer-complaint" or, more scientifically, gastroenteritis on the one hand, from acute intestinal indigestion on the other. Unfortunately, our knowledge of the bacillary (infectious) diarrheal diseases is, at the present time, far from complete, so that, as a result, we are burdened with several classifications and a most diverse and puzzling nomenclature.

The average man dipping into current literature from time to time, as opportunity offers, is likely to get the impression at one of his readings that everything he thought he knew or has done heretofore is wrong. Abashed at his ignorance and determined to keep abreast of the times, he steals a few more hours for study, only to rise from his perusal of a fresh batch of literature aghast not alone at his own crass ignorance but at the idiocy of the theories of the author first studied. Immediately he orders and feverishly awaits the arrival of various monographs, reports, and textbooks, for he has decided, once for all, that no longer will he fail to identify the bacillus dysentericus or ignominiously continue to diagnose and treat just plebeian "diarrhea," when he might just as well be scientific to the core and proceed to combat 'steen forms of enteritis, enterocolitis, ilioocolitis, and other -itises.

So he prosecutes his studies, only alas! to find that the most convincing monograph of his new pile upsets all the conclusions arrived at in the longest of the reports, and monograph No. 2 evidently was written by a scientist with a burning desire everlastingly to squelch, and entirely to erase from the horizon, the author of monograph No. 1.

In despair, the doctor now peruses "Study No. 3." From this he learns that the guinea-pigs sacrificed upon the altar of science by the author of monograph No. 2 were not fed correctly (when horrors! they had been fed two carrots and a cabbage-leaf a day, whereas they should have had two cabbage leaves and one carrot), so that, plainly, all the conclusions arrived at were tectotally worthless. Q. E. D. At the same time it is definitely shown that the writer of monograph No. 2 sterilized his culture-media—or the tubes, or maybe both—in an autoclave at 200 degrees Fahrenheit scale, for one hour, whereas, we are told, the process should have been continued for one hour and five minutes and the temperature raised two degrees during the last forty seconds. The fundamental procedure utterly wrong, obviously all the conclusions arrived at are absolutely erroneous.

The learned writer of Study No. 3 having thus demolished every other man's work, straightway proceeds to prove that the white rat, if fed upon bread and pasteurized milk, will gain weight more rapidly than would the common brown sewer-rat when placed upon a strict allowance of whey. On the other hand, the white rat, we are informed, will curl up and die if given 2,000,000 Shiga-Flexner bacilli intravenously, whereas the more vulgar rodent refuses to surrender the ghost until at least half as many again are pumped into him. All of which makes it plain as daylight, first, that ilioocolitis is not gastroenteritis; second, that, although the Shiga-Flexner bacillus may be present in either or in both conditions, it very often is not; and, third, that pasteurized milk (and good wheat-bread) is better food for rats (and, therefore, should be better for babies) than whey. Once more: Q. E. D.

Too-Much "Science"

The doctor in search of the TRUTH at this point throws the "studies" and the "monographs" and all the rest of the stuff into the furnace, cancels his subscription for

several ultra-scientific journals, and turns with a sigh of relief and a hopeful spirit to the two "new" textbooks and "Handbooks," "revised and enlarged," that he has procured at a cash outlay of seven dollars per volume. It would not be kind to follow our wanderer in the wilderness further. Suffice to say, Textbook No. 1 vouchsafes precisely the same information that he was possessed of as long as ten years ago, with, be it admitted, one additional paragraph, to the effect that "recent researches show that several bacteria may be causative of diarrheal diseases!" Textbook No. 2, however, actually devotes several pages to the subject. "There may be," this author states, "extremely severe symptoms or very mild ones; the lesions in the bowel may be many, few or entirely absent; evidence of toxemia may be pronounced or lacking; the disease may run a rapid or long course. The difference seems to depend upon the virulence of the infection and the condition of the child itself." Then, to clear the clouds away and make plain the path of the troubled practitioner, the latter is assured that "it is quite impossible at the outset to tell whether a diarrhea is of the bacillary type or merely an intestinal indigestion. The latter should respond to treatment; a continuance of symptoms means an infectious diarrhea!"

Everything, you see, is *perfectly* plain! What more could the doctor ask? The old-fashioned physician who cured (or cures) his "summer" diarrheas and other diarrheas with calomel, the sulphocarbolates, bismuth, camphor, and so on, had only old-fashioned intestinal indigestion to deal with. Today, with a sophisticated milk supply and parents addicted to the tango and maxixe, the child may have the milder disorder, but is quite likely to harbor bacteria of a most objectionable character (benign microorganisms, like the poor, we "always have with us") in some part of his intestinal architecture. The doctor, if he would be up to date, has merely to identify and locate the invader, name the malady scientifically, and then proceed to administer really "scientific treatment." Such procedure is based, seemingly, upon the fact that, if the child doesn't get well under ordinary medication, he has an infectious diarrhea which is, of course, a very serious matter, for the child.

The Doctor is Unsettled and Uncertain

Seriously, this constant premature presentation of a hodge-podge of quasiscientific data to the man in the field tends to unsettle him

and render medicine a very uncertain quantity to him.

In the first place, there are thousands of men in general practice who left college fifteen, twenty, and even twenty-five years ago. To their credit be it said that they do try to keep informed, but unless they neglect their practice (which is usually impossible) they cannot hope fully to comprehend even half of the newer theories—the very terminology puzzles them. These tried and experienced men are blandly told that their trusted remedies are unreliable, are assured that they have deluded themselves when they imagined they cured or even really controlled disease-processes, and the "high authorities" speak disdainfully of the reports of ordinary men who venture to describe their successes with ordinary drugs. In order to educate and "improve" this benighted "practical" practitioner, the highbrows fill their journals with abstruse treatises—the several writers perchance directly contradicting each other—and multiply the textbooks, which, for the most part, are but rehashes of old material with some new matter clumsily grafted on.

Now and again, to be sure, definite facts of practical value are presented in such form that the ordinary physician actually can appreciate and apply the information. Not infrequently, though, such really useful information is promulgated only by independent journals—"quasi-medical" publications the "elect" dub them—yet, so great is the fear of ridicule, so firmly implanted the desire to be "as big as the next man," that many hard-working (and financially hard-pressed) physicians subscribe for the "recognized scientific journals" (which, if at all read, confuse rather than help them) and then, for the simple reason that they cannot afford both, cut off the "practical periodical," whose sole mission is, to work for the good of the doctor!

We Are Really Progressing

That we are moving forward, that things that were accepted as true yesterday are known to be false today, there is no doubt; that curative methods unheard of last year have been discovered and are generally available now, also goes without saying; but, we also know that agents and measures introduced with a flourish of trumpets from the laboratory-workers a few months ago, when subjected to the acid-test of actual use in practice, have "fallen down" ignominiously.

What the overworked general practitioner really needs is a reliable clearing-house that will accept any and all things, subject them

to an effective winnowing-process, and release for further circulation only good legal tender.

As a matter of fact, the doctor himself is still must, inevitably, always be the final judge of the value of a remedial measure or agent. If in the hands of a thousand men such a one makes good time and time again—proving its superiority—it will be used more and more extensively as constant good results warrant increased confidence.

So in the treatment of diarrheal diseases, it is a serious matter to shake the physicians' faith in old and tried remedies without at the same time supplying him with far better and understandable working-formulas. Dr. Isaac A. Abt, of Chicago, in his recent article, "History of the Classification of Gastro-intestinal Diseases in Ancient and Modern Times," cogently puts the matter thus:

"Whither are we drifting now? Are we standing on firm foundation or are we on the quicksands? Has all the work on cellular pathology been completed? Is the biologic study of the gastrointestinal tract forever a closed book? Are *all* the questions which confront us in the solution of this group of disorders to be disclosed by the chemical study of food and inquiry into metabolic changes? The great danger is that we drift too far. Is it not well that we occasionally take inventory of the debts we owe the past as well as of the contribution of the present? We may see light from the research of today, though the illumination is not sufficient to permit us to say that darkness has vanished."

A Satisfactory Classification

I do not hesitate to affirm that the present generally accepted broad classification of diarrheal disorders, generally speaking, is quite satisfactory, while the rational treatment which (with slight modifications) we for so long have advocated stands preeminent, by reason of its general efficacy.

In children, as in adults, we have, as a rule, to deal with three prime factors: (1) intestinal indigestion (primarily gastric, perhaps); (2) intestinal intoxication; (3) intestinal catarrh.

Although the laboratory-man may talk glibly of the importance of the role the bacteria are playing in the production of intestinal disorders, he has not yet been able definitely to associate specific microorganisms

with well recognized diarrheal diseases. More over, it is quite possible that the so-called normal intestinal flora may, under certain conditions, assume distinctly pathological attributes.

Of certain things, at least, we are reasonably sure. At birth, the alimentary canal is free from bacteria, but within a few hours, or days at best, bacteria make their appearance there. The character of the microorganisms, of course, to a great extent will depend upon the nature of the food ingested. Breast-fed children will not have the flora of the bottle-fed infant.

We know that most of our cases of gastro-enteritis and allied troubles are observed in infants artificially nourished or else in children during the second summer, when food other than mothers' milk is being ingested. As a rule, the trouble starts from overfeeding or the administration of improperly balanced cereal and milk mixtures.

The pediatricist who would be successful must perforce make a study of infant feeding, and he who has, knows that many infantile diarrheas will not yield to medication, but will disappear upon the exclusion of excessive fats, proteids or carbohydrates—too much milk-sugar. In intelligent feeding (which includes the withholding of contaminated milk), the prevention of fermentation, through elimination of waste and perfect oxygenation of the blood stream (fresh air in abundance and the absence of constricting bands), are the prophylactic *essentials*.

The self-same principles apply in the treatment of all diarrheas. Unless we have to deal with gross lesions or a specific infection, we find an inability to digest all or certain kinds of food substances; fermentation of retained partly converted or unconverted ingesta; an enormous increase of bacteria—some distinctly "foreign" and injurious, others native but so perverted by conditions that they become inimical to the welfare of their host; localized congestion, with excessive secretion and toxemia from absorption. Verily, it matters very, very little to the physician whether there are present in the *intestine* two different kinds of bacteria, or twenty. The thing is, to get rid of them all—or, if that be impossible (as it really is), to decimate their ranks and render the survivors harmless.

(To be continued)

The Treatment of Acute Infections

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE. Did you read Doctor French's fine series of addresses to a class of medical students, published in this journal last year? In these talks he gave the fundamental principles of active-principle therapy and began the development of the practical methods of applying these principles in actual practice. In this article he carries the "story" a step further. Others will follow. Be on the lookout for them.

DR. W. H. BURGESS, of Tennessee the man who invented one thousand new uses for epsom salt reduced all known diseases to five, which he named Retention, Invasion, Enervation, Trauma, and Poison. If you will look upon these as five original types with which all diseases may be compared, or as five great classes in one or another of which all known maladies may be placed, you will see that Burgess was a man who thought for himself, even though his ideas do not run in the beaten tracks.

The acute infections, to which I shall call your attention today, all belong to Burgess' second class. They are invasions. To use the Doctor's own words, "there is an enemy present, and this whole array of symptoms is an invasion."

Under the general head of acute infections, it is customary to consider all of the eruptive fevers such as measles, scarlet-fever, small-pox, chicken-pox—with diphtheria, influenza, whooping-cough, mumps, and others of a similar nature, most of which commonly are regarded as diseases of children, for the reason that, being of a highly contagious nature, most persons contract them before arriving at the years of adult life. To these may be added a formidable list of other diseases, including pneumonia, typhoid fever, erysipelas, and meningitis, all of which are acute infections. But to make up the class in this way would be to include in it an unduly large proportion of all the diseases the physician is called upon to treat, consequently I shall limit the term acute infections to the diseases first named.

A General Consideration

Let us first consider them as a class and see wherein they resemble the type, which is a composite of the whole.

In the first place, they are all acute diseases and, beginning with a greater or less degree of fever, require special treatment for the hyperthermia; except in those light cases in which only care, watching, and proper restraint are needed for restoration to health. Reduction of temperature is best accomplished by means of the defervescent alkaloids acon-

tine and veratrine, aided when necessary by the tonic remedies strychnine and digitalin, according to the general method already described by me in dealing with pneumonia and typhoid fever. To the remedies named, some others may be added under special conditions. Each remedy has its special indication, and the remedies and combinations selected are varied with all the changing conditions of the patient and phases of the disease. With this understanding, it is safe to say that the treatment for "fever," once learned, is learned, in its general outlines, for all classes of patients and every named disease.

In the second place, since these diseases are all invasions of the body by an enemy from without, they are all benefited by some form of eliminative treatment, whereby the enemy may be driven from the system—or, if not driven out, at least rendered unable to thrive and grow, because the resisting power of the body has been raised and the natural immunity of the system to disease, which is reduced by fecal toxins and retained waste, has been increased. Hence, elimination is an essential step in the treatment.

Here again, the general principles to be followed are substantially the same as those which were laid down under the head of eliminative treatment in typhoid fever. There is, however, a variety of other drugs and remedial measures that may be called in aid, among them, calomel, podophyllin, bilein—small doses, singly or combined—followed by the saline laxative; or, in some cases, the old-fashioned remedy castor-oil may be superior to any of the others. Of course, other appropriate remedies may be called for, while sometimes a laxative enema is advisable. There is plenty of opportunity for intelligent choice. But, whatever is given, give it in *small doses to effect*. The doctrine of clean out, clean up, and keep clean is strictly applicable in all invasions, that is, acute infections.

All Are "Septic" Diseases

In the third place, they are all septic diseases, due to some poison introduced into

the body from without. These poisons are believed to be living germs, each one specific to the disease which it produces. In nearly all of these diseases, this germ has been discovered and its habits studied. In others, this has not yet been done, but in all probability soon will be. And, since it is impossible to eliminate the poison completely, an antiseptic is also needed, whereby the sepsis may be overcome and the germ destroyed; or, when this is not practicable, at least its vitality may be sapped and the soil in which it exists rendered infertile, so that its growth may be hindered or prevented. These results may usually be accomplished by means of chemical antiseptics, employed both internally and externally.

When taken into the system, these germicides in many cases show an affinity for some particular organ or tissue. Thus, calcium sulphide exerts its characteristic effects upon the blood; the sulphocarbolates, upon the intestinal canal; creosote, upon the respiratory organs; hexamethylamine, upon the urinary organs; and so on through the list. Salvarsan acts specifically in syphilis; quinine, in malaria; emetine, in dysentery. The particular remedy to be employed will, therefore, be determined by the nature of the disease and the organs and tissues which are chiefly affected thereby. This form of therapeutics sometimes is referred to as chemotherapy.

In the fourth place, since they are all specific diseases and produced by definite living germs, each one propagating only its own kind, it follows as at least a probability that each one may be successfully treated with some form of serum, vaccine or bacterin administration. As a matter of fact, this form of treatment has been developed and is being employed with success in some of the acute infections; in others it is being developed and is now on trial; while in still others the specific germ has not yet been isolated and no progress has been made at the therapeutic end of the problem, though even here it seems likely that the near future will see great progress in this direction. Thus, vaccination was first employed in smallpox, antitoxin has won its greatest laurels in diphtheria, bacterins are used with considerable success in typhoid fever, while in measles, up to the latest of my information, the micro-organism had not yet been discovered.

Four Different Methods of Treatment

We find, then, four different methods of treatment that are common to most or all of the acute infections; these being: the defer-

vescent treatment, the eliminative treatment, the antiseptic treatment, and the biologic treatment. And it seems to me that you can get a more practical knowledge of this subject, that you will be better prepared to treat these cases when you meet them in your practice, if you will familiarize yourselves with the general nature and specific applications of each of these different methods as well as the class of cases to which they are adapted, once for all, rather than to take up the individual diseases separately and learn a separate treatment for each one.

By this I do not mean to teach you that any two of these diseases are to be treated in the same way, or even that any two cases of the same disease are to be so treated; but only that there are certain general principles and conditions which are the same in each, and these may be learned once for all.

You will be struck by the fact that these four forms of treatment are in general the same as those which I presented to you the other day in speaking of the treatment of typhoid fever. This arises from the fact, to which I have already alluded, that typhoid fever, strictly speaking, is a member of this class, an invasion, an acute infection. As a matter of convenience and because of its great importance, it has been considered by itself. But the general principles are the same as in the other members of the class.

In addition to the four forms of treatment already referred to, it is necessary to make mention of at least one other, namely, symptomatic treatment. In this, as a sort of miscellaneous class, we may place all the measures and remedies not already enumerated that are required in the treatment of special symptoms, and which may or may not occur in any of the cases mentioned; which, though, when so occurring, are in the main not essential but only incidental to the disease considered.

Symptomatic Treatment

An illustration of this is found in the use of morphine, which may be called for in almost any disease, at times, for the relief of severe pain; but it is really no part of the treatment of the disease, being employed only for the relief of a symptom. Under this head, we use also heart and nerve stimulants and sedatives; remedies to aid digestion and improve nutrition; remedies that relieve local anemias and congestions, either by local or general action; and remedies that attack local foci of disease.

We will now proceed to take up a few of the diseases individually, only very briefly.

My aim is not to exhaust the treatment, but only to suggest a few remedies for special diseases, and leave the rest to be treated according to the general principles which we have already considered.

The Treatment of Measles

Rubeola, or measles, is perhaps the most common and one of the most contagious of the eruptive fevers, few children escaping it. The symptoms and diagnosis are important, but it is not for me to dwell upon these. The first essential of treatment is, to begin early. The second is, to have full control of your patient and the family. Given these two things, and the responsibility is yours. Failing of these, the responsibility is divided, as is equally the probability of recovery.

Treat the fever on general principles. Keep the bowels open and the intestinal canal reasonably aseptic. Saturate the patient with calcium sulphide. I shall give this last advice so often, it may be well to tell you just how to proceed.

In the first place, you must remember that calcium sulphide is a somewhat unstable drug and that many of the preparations on the market are utterly without value, because of the fact that they have lost their strength. No preparation which does not reveal itself by the smell of sulphureted hydrogen soon after it has been ingested, is of any medicinal value whatever. So, when you are taking either the granules, pills or tablets of this substance, if you do not smell "rotten eggs" shortly afterward, your drug is of little value. As a matter of fact, judging from what information I can obtain, much of the calcium sulphide sold is of little value. This fact accounts for the widely differing opinions of different physicians concerning the value of this drug, some being enthusiasts in its favor, others declaring that they have never found it of the slightest value.

The very first thing, then, is, to be sure you have a good drug. Some coated tablets keep their strength fairly well, but the granule seems to preserve its virtues better than other pharmaceutical forms.

My own experience has been mostly with 1-grain tablets and 1-6-grain granules of proven reliability. Of these, the granules undoubtedly are to be preferred, and a 1-6-grain granule taken every hour will do more than a 1-grain tablet every four hours. Nevertheless, since many adult patients, especially if not seriously ill, will not take a small granule every hour, when they will take a large tablet every four hours, we

sometimes must give the tablet or else order several granules at a single dose. But, whichever preparation is employed, be sure that it is active—that is to say, that it "smells the real thing."

Whether or not the use of this remedy previous to exposure will render one immune to the disease, I am not prepared to say with any degree of certainty. I do believe, however, that such a saturation established either previous to exposure or during the stage of incubation would either prevent, abort or largely modify the symptoms of the disease; and I should use it with confidence for this purpose.

In addition to this use as an antiseptic, the sulphide of calcium is also the best remedy for the cough of measles, which is hard, harsh, and hoarse. Indeed, for this kind of cough, no matter in what disease it occurs, there is no better remedy than calcium sulphide. Here the granules may be given every one or two hours or the tablets every two to four hours.

At the same time you are prosecuting the germicidal treatment look out for elimination, by giving 1-10-grain calomel every half hour for ten doses, following this in an hour with the proper dose of saline laxative. If there is obstinate constipation or intestinal auto-intoxication, add to the calomel an equal quantity of podophyllin or else use the compound granule containing 1-6 grain each of calomel and podophyllin, giving six doses only. Repeat the saline laxative, if necessary, in an hour or two, until free movements result. Or it may be advisable to given an enema.

Meantime the child should be bathed in a carbolyzed solution of epsom salt, made by dissolving an ounce of the salt in a quart of hot water and adding 10 minims of carbolic acid. This is an excellent lotion to use for sponging the patient in all cases of the eruptive fevers, these bathings to be repeated once or twice daily throughout the course of the sickness.

Aconitine may be prescribed for the fever, in the usual doses. That is to say, to 24 teaspoonfuls of hot water in a cup, add 1 granule for each year of the child's age and one additional granule. This is the general rule for active-principle dosage in the case of children, and is known as Shaller's rule. The frequency of the dosage is regulated by the height of the fever, the aim being to keep the temperature below 102 degrees. But, when elimination and antiseptics have been carefully attended to, in a large proportion of the cases the fever will be but slight

and little, if any, treatment for it will be needed.

In the case of children, some practitioners prefer to substitute gelsemine for aconitine when there is present the special indication for the former remedy, namely, a flushed face, bright eyes, contracted pupils, and increased heat of the head. When this is prescribed, the same rules as to dosage prevail.

Except in severe and long-continued cases, it is seldom necessary, when dealing with children in these diseases, to resort to the combination known as the trinity and the defervescent granules.

When the eruption does not come out promptly, a hot bath, hot drinks, sponging with water containing mustard, or hot-packs on the chest will usually aid materially in producing the desired result. This is important, as there is always danger in the delayed eruption.

The mouth, nostrils, and throat should be cleansed carefully with some alkaline antiseptic solution and the ears syringed with warm boric-acid solution once or twice a day.

The bronchial symptoms may be largely controlled by means of inhalations, once in four hours, of a medicated vapor made by adding 20 drops each of oil of eucalyptus and oil of turpentine to a quart of boiling water.

The diet should be light, consisting mainly of broths, gruels, fruit-juices, and the like.

Special symptoms must be met as they arise.

The Treatment of Scarlet Fever

Here again the standard antiseptic is calcium sulphide, and this should be given, not only to the patient, but to all exposed persons who have not had the disease. My own experience has convinced me of its great value. I will mention but one instance.

A woman of thirty-five was taken down with scarlet-fever, which ran a fairly typical and moderately severe course. During her illness, the house was strictly quarantined, and in it, besides herself, were confined her husband, her own little daughter of seven or eight years, and her husband's sister—none of whom ever had had the disease.

From the very onset of the disease, I saturated all four persons with calcium sulphide, in the manner described under the head of measles. The smell of the sulphureted hydrogen gas was obvious in the breath of each one—and this is essential to securing the desired results. This treatment was continued until the patient recovered and the quarantine was removed. Neither of the exposed persons contracted the disease.

This perhaps was not strange in the case of the adults, but that the child should escape certainly is suggestive. The three well persons in the house went freely in and out of the room where the sick woman was confined, no restraint being put upon them.

I am aware that this one case proves little or nothing. Still, as one of a considerable number of similar cases occurring in my own practice and in that of my friends, it serves to confirm me in placing much reliance upon this drug as a preventive of scarlet-fever and to think that perhaps it acts the same in the other contagious fevers—though my experience with the latter has been less extensive in this respect.

Another method of prophylaxis worthy of trial and likely to prove of value, although it has not as yet won general adoption, is the use of the scarlatina prophylactic bacterin. Further experience with this is desirable.

The treatment of the disease, when developed, is similar in some respects to that of measles. However, here the temperature is higher and the general symptoms are more severe, while the local symptoms call for close attention.

Carbolated epsom bath and general antiseptic treatment are of value here as in measles. The mouth and throat should be sprayed or gargled freely with a solution of Seiler's tablets, glycothymoline, listerine, or some similar preparation, in proper dilution. Anointing the entire body with cacao-butter or camphorated oil does much to relieve the extreme itching; also to lessen the contagiousness, if, as is generally taught, the contagious element is found in the scales which flake off the body. Intestinal antiseptics may be observed, with good results, from first to last. When desquamation is complete, the patient should take a hot bath in a 1 : 10,000 solution of corrosive sublimate, then put on sterile clothing; while the rooms must be disinfected with formalin gas.

The Treatment of Diphtheria

Diphtheria is due to the Klebs-Loeffler bacillus, and this malady, previous to the discovery of antitoxin, was the most dreaded of all the acute infections. But now it has been largely shorn of its terrors, thanks to the antitoxin, and is now less to be feared than scarlatina or measles.

You whose memory does not reach back beyond the days of antitoxin cannot realize the wonderful change which this remedy has brought about in the prognosis of this disease. For myself, I well remember my first experi-

ence with it, and the radical transformation it wrought in my own outlook.

It was in the afternoon of December 27, 1895, when an Italian girl seven years of age was seen by a brother practitioner and, being found to have well-marked diphtheritic membrane in the throat, was duly reported to the board of health. As this physician was called away that night, he left the patient in my charge. When I saw the girl the next morning, I found her throat literally filled and packed with diphtheritic membrane and realized at once that, situated as she was and good caretaking impossible, there was almost no chance for her recovery with the usual treatment.

Antitoxin being a new remedy and much praised, I determined to try it; but, the next day being a holiday, I had great difficulty in getting the antitoxin from Boston. However, I finally succeeded, and at 7 o'clock in the evening I injected 1000 units of the remedy; this being the dosage then prescribed. That was Thursday evening. On Sunday morning the child's throat was entirely free from false membrane and she was sitting up and writing on her slate. On the following Tuesday recovery was nearly complete and I paid my last visit. This result cannot seem as marvelous to you as it did to me at that time; for, you are used to seeing diphtheria treated in this way, and with similar results, while I at that time was not.

The general experience with antitoxin therapy—and which should guide us is that, if given on the first day of the disease, the mortality is almost *nil*, while for each day wasted the death rate is largely increased. Another score for the early beginning of treatment.

Along with antitoxin, the usual antiseptic precautions should be scrupulously observed, not only as to the patient, but for the furniture, rooms, and all individuals. All exposed persons should be immunized by receiving a minimum dose of antitoxin. Use the concentrated antitoxin (globulin solutions) only.

Internally, calcium sulphide, echiracea, nuclein, and iodized calcium are valuable remedies; and right here I want to add that while antitoxin is the specific remedy for diphtheria, there are many other useful remedies that should be used to meet special indications, some of which have just been mentioned. Of special importance is attention to the heart, which suffers severely. Watch it carefully, giving strychnine, digitalin, and other remedies as indicated.

The principal source of infection is the diphtheria "carrier"—the individual who has had diphtheria (perhaps in such a light form that it was not properly diagnosed) and still harbors the Klebs-Loeffler bacillus in his throat. After clinical recovery *be sure* that the throat is free from this germ. If it lingers, clean it up by using sprays containing suspensions of the bacillus bulgaricus. The same local treatment is useful during the course of the disease; but, of course, no antiseptics should be used when these cultures are employed locally.

In diphtheritic croup, intubation or tracheotomy sometimes becomes necessary. My only fatal case of diphtheria treated with antitoxin was one of laryngeal croup. In cases of croup which is not membranous, iodized calcium proves successful in nearly all cases.

The grip, or influenza, is a disease of many forms and a great variety of symptoms. The violence of the disease may fall upon almost any of the organs or systems of the body. The most common form is that in which the respiratory organs bear the brunt of the attack. Or, this may fall upon the digestive organs or upon the nervous system. Probably these three are the most common forms.

But when you have learned the grip from one angle—how it looks and how to deal with it—it is likely, in the next case to which you are called, to strike in a new way and at different organs; so that it is really a difficult matter to get on intimate terms with this protean monster. It is not a pleasant matter, either. And when there are so many forms and such varying symptoms it is not strange that the treatment varies greatly with different men and that there is as yet no general agreement.

Nevertheless, in all its forms, there is one invariable characteristic of influenza, and that is the great depression. If there is a weak spot in the system, the grip is sure to find it out and force an entrance at that spot. I might go a step further and say that, if there is no such weak spot when the grip attacks a man, there is sure to be such a one when it leaves him. Therefore, every form of treatment should aim at supporting the patient; the vital powers must be sustained in every possible way. Beyond this, the treatment is largely symptomatic.

Alcohol, opium, and all narcotics are to be avoided, because of their secondary depressing effects. Also the coal-tar products are looked upon with suspicion by the best

therapists. Strychnine and digitalin frequently will be found necessary.

For the fever, I have no better plan to offer than the usual dosimetric method, with which by this time you ought to be getting somewhat familiar. Aconitine in the early stages perhaps, but more likely the trinity granule from the beginning. Always fortify the heart. Do not wait for the symptoms of depression to manifest themselves, but anticipate them and think yourself fortunate if you are able to forestall them.

Heat is a valuable adjunct to the treatment. The hot bath, hot-water-bags, hot drinks, hot capsicum-tea—all these are good.

Rest in bed is essential while the extreme depression lasts; and this is true in all forms of the disease.

Highly nutritious and easily digested food, such as turtle-soup, clam-broth, raw oysters, milk and eggs, fruit juices, coffee, and the predigested foods, may be given in small quantities every two or three hours and pushed to the limit of the digestive capacity.

In the respiratory form of the attack, it is well to syringe the ears and irrigate the nasal passages with the alkaline antiseptic solutions, and to spray the nose and throat with campho-menthol or a standard antiseptic oil. Cresoline, oil of eucalyptus, and similar substances may be vaporized, to fill the room with antiseptic vapor. For internal use in this form of influenza, iodized calcium is an especially valuable remedy.

Another peculiarity of grip is that it is liable to lead to all sorts of complications. One of the most common and dangerous of these is pneumonia—and the pneumonias of influenza are mixed infections, and always dangerous.

We are still lacking in the knowledge of any specific antiseptic. We cannot yet with confidence attack the bacillus of influenza, either with a chemical product or with a bacterial vaccine. These things will come, we confidently hope and expect; but as yet the treatment is largely symptomatic. Grip is a tricky devil, and the best way to meet him is to be clothed in the armor of good health and be guarded by the best of care; and, if attacked, to give support at every avenue.

To recapitulate briefly:

In an epidemic of grip or when exposed to conditions which favor its approach,

1. Live simply, guarding your health on every hand; especially, look out for colds, be careful of your diet, and spare your nerves.

2. If attacked, eliminate poisons and tissue waste by means of the usual measures in those circumstances; support the system by proper nourishment and tonic medication; treat symptoms as they occur; avoid anodynes and narcotics.

3. Look out for complications.

Much more might be said, both of this and the other diseases of this class, but the hour is up and I must postpone further discussion until the next time.

A JUNE SUNRISE

BY JOAQUIN MILLER

The east is blossoming!—Yea, a rose,
Vast as the heavens, soft as a kiss,
Sweet as the presence of woman is,
Rises and reaches and widens and grows,
Large and luminous up from the sea,
And out of the sea, as a blossoming tree,
Richer and richer, so higher and higher,
Deeper and deeper it takes its hue;
Brighter and brighter it reaches through
The space of heaven and the place of stars,
Till all is as rich as a rose can be,
And my rose-leaves fall into billows of fire.

The Therapeutic Use of Living Bulgarian-Bacillus Cultures

By J. FAVIL BIEHN, A. M., M. D., Chicago, Illinois

LIVING cultures of the bacillus bulgaricus have now been firmly established as one of our most efficient remedial measures. This organism was first isolated in Massol's laboratory by Grigoroff, after which it was brought to the attention of Prof. Elie Metchnikoff, and the latter, quickly foreseeing its possibilities, took up the study of this ferment and popularized its use, both as a hygienic aid and a therapeutic agent of vital importance.

Two known varieties of this organism are recognized, known as type A and type B. Type A, so far as I am able to determine in a clinical way, produces better results. However, in order to utilize this organism intelligently it is absolutely essential that at least some of the main facts of its biology should be thoroughly understood.

The bacillus bulgaricus is one of the lactic-acid ferments, but it produces a very much higher percentage of lactic acid than does the ordinary lactic-acid bacillus found in sour milk; the reason for this being that it is capable of withstanding and thriving in a higher percentage of the acid which it generates. The true bacillus bulgaricus A, under favorable conditions, produces on an average 4 percent of lactic acid. It is because of its ability to withstand acid that it is capable of passing through the normal gastric-digestion processes unharmed. Ordinary lactic-acid bacilli are far less resistant to acid, hence, unless a person ingesting them is suffering from marked gastric derangement characterized by acidity and fermentation, they will be destroyed by the normal hydrochloric acid of the gastric juice; and so, they cannot exert any action in the intestinal canal, which they do not reach alive.

The Bulgarian Bacillus a Prolific Acid-Producer

The bacillus bulgaricus will not grow at the ordinary room-temperature as do the common lactic-acid bacilli; but it will grow at body temperature, and more readily at 110° to 114° F. Therefore, if this organism is to be used for the souring of milk (that is, for making the so-called bacillus-bulgaricus buttermilk) the liquid must be maintained at or above a temperature of 98.6° F., in order that this organism may develop. This is the principal drawback to the preparation of butter-

milk in the home by means of this particular organism. Moreover, the Bulgarian bacillus does not thrive in the ordinary laboratory culture-media, growing only very sparingly; a fact which, unfortunately, precludes the possibility of the ordinary everyday physician preparing and maintaining pure cultures.

The bacillus bulgaricus A does not produce spores, and, varying according to its environmental conditions ordinarily retains its vitality for from ten days to four months. Under the most favorable circumstances, such as in a tablet that has been dried in a vacuum at a low temperature, the organism has been known to remain alive for nearly a year. Of course, in tablets kept for such prolonged periods, the number of viable organisms continues to decrease constantly. This bacillus growing equally well as an aerobe or as an anaerobe, it is therefore eminently suited for internal administration.

Experimentally it has been found that, whether owing to the excessive amount of acid produced or to some other inherent property of which as yet we have no knowledge, the bacillus bulgaricus prevents the multiplication and even causes the destruction of other microorganisms, when associated with them in a suitable environment. Because of its ability to pass through the stomach unharmed and because it multiplies at or above body-temperature, and tends to destroy or at least inhibits the growth and activity of other bacteria, especially certain pathogenic varieties, this ferment has found useful therapeutic applications in a multitude of pathologic conditions.

My Main Reliance in Gastroenteritis in Children

The exhibition of living cultures of bacillus bulgaricus A (both in tablet and liquid or bouillon-culture form) for three years has been my main reliance in the treatment of gastroenteritis in infants. The children in the cases that I have seen varied from three to four and a half years of age. Under ordinary circumstances, as these cases are seen by the average practitioner, the mortality should not be over 4 percent when this treatment is employed; in fact, a number of observers have reported several hundred consecutive cases without a single death.

These children not only react to this bacillary treatment very rapidly, but in spite of from four to twenty bowel movements a day they generally continue to gain in weight. Originally, after an initial purge—preferably of calomel followed by castor-oil or a laxative saline—I placed the sick baby on a starvation diet for forty-eight hours. Then I started with the bacillus bulgaricus. Now, however, even in the highly toxic cases, in which the temperature is subnormal, where the patients evidently have little or no reactive vitality remaining I do not resort to the starvation diet, but order a continuation of the breast feeding or of the modified milk, or whatever food the child may be receiving; provided, of course, it is proper food for the child.

If I prescribe the bouillon-culture, it is added directly to the feeding. I believe, however, that equally good, if not better, results are obtainable from the tablets, provided they are not too old and are efficient, i. e., contain living, viable bacillus bulgaricus. Indeed, it has seemed in some cases that better results followed the use of the tablets than of the bouillon-culture; but, if with the bouillon-culture a certain proportion of milk or, better, milk-sugar, is administered, there appears to be no difference in the results.

The stools usually return to normal consistency and color within forty-eight hours. The child sleeps and eats; also, the temperature usually becomes normal at about the same time, although occasionally it may persist for three or four, or even for five days. I have seen cases, however, in which the blood and mucus and green liquid stools persisted for as long as seven days after the treatment was started.

These patients practically all gain in weight immediately. Further, very frequently a child that has been on a set diet without gaining in weight and develops gastroenteritis, when put upon treatment with living bacillus bulgaricus cultures and continuing the same diet, not only will recover from its gastroenteritis, but will gain in weight as well.

In very severe cases, where there is considerable blood in the stools, I have, in addition to the treatment here outlined, successfully employed high enemas of olive-oil, followed by plain lukewarm water. I may add that the action of the bacillus bulgaricus seems to me to be far more rapid and much more favorable in those cases in which the small intestine is involved.

In the adult, the absorption of toxic products from the intestinal detritus results in a peculiarly vicious train of symptoms, most

of which have repeatedly been set down in the many articles that have appeared upon this subject. I find, however, that most of these cases that are markedly benefited by bacillus bulgaricus medication show, first, insomnia. Whether or not this is owing directly to the fact that absorption of toxins is greater at night than in the daytime, I do not know; still, it is a definitely established fact that the majority of these patients show more indican in the night urine than in that of the day; while very frequently indican will be present in the first urine voided in the morning, but not found at all in that voided in the course of the day.

Many of these patients suffer from alternating constipation and diarrhea, and it will be noted that during the period of constipation there is more or less periodical rumbling of gas, which usually is sufficiently marked to be noticed by the patient. These patients, as a rule, do not masticate their food, usually are heavy meat eaters (and I believe fresh pastry has an equal value as a causative factor with meat), and many of them are inclined to the use of malt liquors.

Treatment of Adult Intestinal Disorders

In treating these individuals, the initial cathartic always is essential, while the treatment itself may consist either in the exhibition of bacillus bulgaricus bouillon (which may be given after breakfast, alone, because of the usually high starchy content of this meal) or after each meal; or, in the exhibition of tablets, from which equally good results are obtainable. These I give, as a matter of routine, three times a day, generally ordering from four to six at a dose.

The diet should be regulated, and especially should meat and fresh bread be interdicted. If the patient is addicted to the use of beer and other malt-liquors, these should always be prohibited. In my experience so far, light wines are not contraindicated. If the patient be suffering from the so-called bacillary diarrhea, due to the Shiga bacillus or some correlated organism, I prefer the bacillus bulgaricus buttermilk, and let that be the sole diet of the patient for some time. For the average individual, however, this is not sufficiently nourishing, and many soon tire of the buttermilk; so that either the liquid culture or the tablets are usually preferable.

The Spray in Infections of the Air-Passages

Aside from the use of the bacillus bulgaricus in intestinal derangement, both in infants and adults, a large measure of success is obtainable

from the use of the bouillon-culture in various affections of the exposed mucous membranes: I have used the culture in nearly one hundred cases of diphtheria-carriers, most of whom were referred to me because of the persistence of diphtheria bacilli and the maintenance of quarantine.

In these cases, the liquid culture, full strength, is sprayed into the nose and throat every four hours. No other treatment is used. Originally I sprayed only the throat, but there were frequent relapses, owing to reinfection from the nose. It is very essential, therefore, that the nose as well as the throat be thoroughly sprayed. This treatment has cured, in my hands, from fifty to sixty percent of cases of ozena, some cases, however, requiring as much as six months before they yielded. In some cases, I was unable to obtain lasting results, although this treatment gives relief from the subjective as well as the objective symptoms as long as it is persisted in.

Superficial inflammation of the tonsils and pharynx, especially after the acute stage has passed, virtually always is markedly benefited by this spray treatment. The use of antiseptics upon the mucous membrane of the throat results only in a very superficial inhibitory action, and usually is only sufficient to prevent the multiplication of those bacteria in which intimate contact is obtainable. They are not capable of destroying the bacteria unless used in concentrated form, and then they tend to produce coagulation of the exudate, with the result that their action is limited to the surface only. The bacillus-

bulgaricus bouillon, however, does not produce coagulation; it is the introduction of a living germ, inimical to other organisms, upon a surface where conditions are favorable for its development which makes it valuable; and to my mind, this is the rational treatment of such affections.

Useful Also in Furunculosis

In the treatment of furunculosis, I formerly used 70 percent alcohol as a wet dressing, with considerable success. Now, however, I use bacillus-bulgaricus bouillon, and whenever drainage is instituted in any of these cases the drain is saturated with this culture. So far as I am able to determine from clinical experience, the results in many cases are such that this method appears to be preferable to the alcohol dressing after the abscess has been opened.

I have also used this organism, and suggested its use to many others, in the treatment of middle-ear disease, in conjunction with bacterins. It is essential in bacterin treatment that there be free drainage, and the bacillus-bulgaricus bouillon may be utilized in the treatment of discharging ear conditions to much better advantage than antiseptics, which must either be used in sufficient concentration to sterilize the site, thereby destroying tissue, or be of practically little or no avail. The bacillus bulgaricus, on the other hand, does not destroy tissue, is perfectly harmless, and, yet, highly efficient. There are absolutely no contraindications to its use in any of the conditions above mentioned.

Bacterin Therapy in Everyday Practice

By W. C. WOLVERTON, M. D., Linton, North Dakota

EDITORIAL NOTE. Last month Doctor Wolverton began a new series, one that we think will prove very popular with our readers. In telling us about bacterin therapy he begins at the beginning. Read his first paper, if you have not already done so, then continue the story in this issue. Do not lose a single number of this series.

II. VACCINES IN ACUTE INFECTIONS.

THE acute infections form a very large proportion of the general practitioner's work. Their mortality rate is high and complications are frequent and often grave in character. Their onset is sudden, their course rapid and stormy; so, it behooves us to attack them promptly, and with effective weapons. And here, surely, we may "fight the devil with fire," said fire being represented by the bacterins.

It has been argued, on purely theoretical grounds, by some ultra-scientific laboratory-workers, that bacterins are contraindicated in acute conditions, because the patient already is overwhelmed by living pathogenic bacteria and their toxins; and that the subcutaneous injection of bacterins only adds to the existing toxemia, thus hindering, rather than assisting, the natural immunizing mechanism in its efforts to combat the invading bacteria.

However, extensive clinical observation does not bear out this view. The number of killed microorganisms and the amount of their toxins in a *therapeutic* dose of a properly chosen bacterin is so small, comparatively, as to become negligible when one considers the countless myriads of *virulent, living* germs concerned in the infection. Victims in so many apparently hopeless cases, have recovered, in which a dose of a stock bacterin has been administered as a last-resort measure, that one certainly is not justified in condemning the bacterins in acute microbic processes on purely theoretical grounds and without first giving them a thorough *clinical* trial.

And, after all is said and done, the proof of the pudding is in the eating; and the proof of the effectiveness of reliable stock bacterins in the acute infections lies in the number of *cures* effected in cases where we *know* that the classical treatment is hopeless.

However, the bacterins should be given *as early as possible* in these acute infections, in order to be effective, and not reserved for patients *in extremis*. Nor are they to be used to the exclusion of time-tried remedies, such as the active principles of drugs; it is well to hold fast to the old-time friends, reinforcing them with the new ones that are daily proving their worth.

The Author's First Experience with a Bacterin

It was in an acute infection that the writer, on January 18, 1911, administered his first dose of a bacterial vaccine. A German-Russian farmer, 30 years of age, had been confined to bed eight days by an attack of acute rheumatic polyarthritis. The wrists, knees, and ankles on both sides were affected. There was a bad mitral valve lesion, the sequel of a similar attack two years before. The man was coughing considerably and complained of substernal pain and oppression.

I had with me a mixed stock bacterin containing 20,000,000 streptococci and 30,000,000 pneumococci, and with this the patient was inoculated. Several capsules, each containing 0.5 Gram aspirin, were left, as were likewise some tablets of calomel and soda. The calomel was retained; but the first two doses of aspirin were promptly vomited, and *no more of it was taken*. So, whatever results were obtained may well be credited to the action of the bacterin.

A second visit was made twenty-four hours following the first, and the patient was found sitting propped up in bed, able to move his limbs freely and without pain; whereas

twenty-four hours before he had been helpless, unable to move about in bed. The pulmonary symptoms had now disappeared. Forty-eight hours after the bacterin was administered, the patient, contrary to orders, sat up in a chair. Just five days after the initial dose of bacterin, the man drove to town, when a second (and last) dose of bacterin was administered, at my office, to prevent a possible recurrence.

The writer reported the above case, together with five others of a similar nature, in *The Medical Record* for October 28, 1911. Since that time, a considerable number of cases of the same disease have been treated with bacterins by the writer, and with uniformly satisfactory results. He has also recommended the treatment to a number of his friends in the profession, and they, too, heartily indorse it.

Results in Rheumatic Cases

Many of these "rheumatic" patients treated with bacterins experienced a pronounced amelioration of their symptoms (chiefly pain) within from three to twelve hours; and virtually all of them were greatly improved within twenty-four hours.

In the beginning of his experience with these cases, the writer used a straight streptococcus-pyogenes bacterin, believing then, as he still does, that the so-called "inflammatory rheumatism" is caused by some member or members of the streptococcus group of pathogenic bacteria. But, as pointed out by the writer in the paper above referred to, there was considerable evidence that under varying conditions of nutrition, environment, and so on, the phenomenon of "pleomorphism" took place; that is to say, the streptococcus might become transformed into a diplococcus (e. g., the pneumococcus), or vice versa. This no longer is a theory; and it has even been shown that bacilli may become cocci, and vice versa.

On the strength of this evidence, and also because it has been demonstrated that there are few if any "pure infections" in which only one variety of microorganism is found, but, rather, that a mixture of several varieties is almost invariably found, the writer, during the past two years, has employed in these cases a mixed stock bacterin containing the streptococcus, pneumococcus, staphylococcus aureus and albus, and the colon bacillus. This mixed bacterin is commonly known as the Van Cott mixture, and it is with such a mixture that Van Cott and Polak have been having such remarkable success in treating

puerperal sepsis, in its various forms, at the Long Island College Hospital.

Some of the partisans of autogenous vaccines have derisively referred to such a bacterin as the above as a "shotgun mixture," likening it to the old-time prescription in which a great number of drugs, oftentimes antagonistic in their action, were given together, fervently hoping that, if some of the ingredients failed to hit the therapeutic target, at least one of them surely would strike the bullseye.

This is an eminently unjust criticism, for a *therapeutic* dose of *any* bacterin *never* is productive of harm, even though the patient may not at the moment be suffering from an infection with the corresponding living germ. Besides causing the generation of "protective substances," the injection of a dose of bacterin usually leads to an increase in the number of the white blood-corpuscles (leukocytosis); and it seems probable that the injection of a variety of killed bacteria would lead to the establishment of a higher degree of leukocytosis than that caused by the injection of a single variety. And we know that immunity depends very largely upon the phagocytic (cell-devouring) activities of the leukocytes.

Stock Bacterins Are Useful in Emergencies

Besides, in this very class of cases—the acute infections—early administration of the bacterin is the most essential factor in successfully combating the disease. Many a time the patient might well succumb to his infection while an autogenous bacterin were being prepared, for this requires full two days, under the most favorable circumstances, where a well-equipped bacteriological laboratory is close at hand.

But, it is to the general practitioner that this paper is directed; and the general practitioner usually is at a considerable distance from such a laboratory. Then, too, it often is impossible, even under the best of conditions, to arrive quickly at a definite bacteriological diagnosis; so that quite often, while we strongly suspect some particular "microbe" of being the chief, if not the sole, offender, we can not bring positive proof against it. In such cases, it certainly is the rational thing to administer a mixed stock bacterin containing those varieties of microorganisms which clinical experience has shown to be most often implicated in similar conditions.

To illustrate: Clinical experience and the bacteriological findings have demonstrated that the causative bacteria in tonsillitis (ex-

cluding those cases due to the diphtheria bacillus) are the streptococcus and the staphylococcus aureus; lobar pneumonia, to the pneumococcus, with the streptococcus as an able accomplice; bronchopneumonia, to the pneumococcus, streptococcus, and the staphylococci; "common colds," to those just mentioned under bronchopneumonia, with the addition of Friedlaender's bacillus and the micrococcus catarrhalis; puerperal sepsis, to the streptococcus and colon bacillus; corneal ulcer, to the pneumococcus; otitis media (purulent), to the pneumococcus, streptococcus, and the staphylococci, with the occasional addition of the bacillus pyocyaneus; and so down the list.

With a very little study, even though he may have had no bacteriological training while in college, the general practitioner may in a short time sufficiently familiarize himself with the usual haunts of the various pathogenic bacteria to be able to fit intelligently his bacterins to the individual case.

Bacterins in Pneumonia

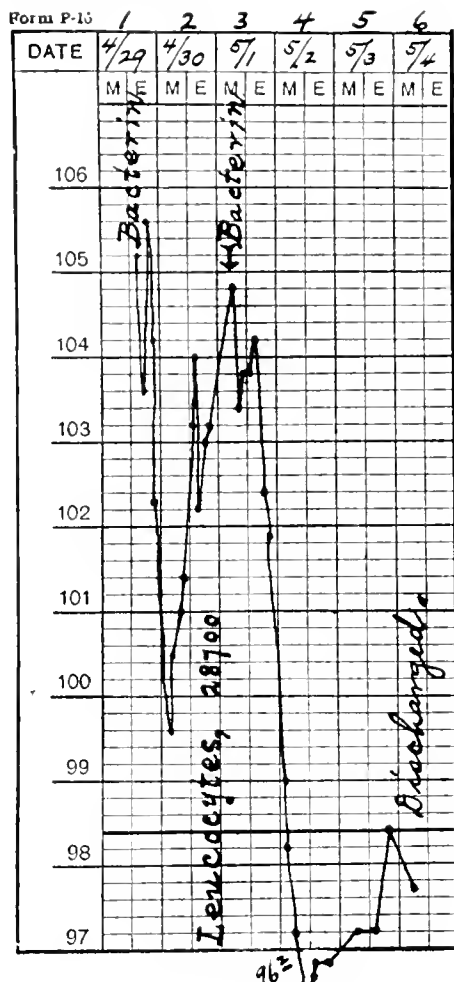
In spite of the multitude of "treatments" elaborated for his undoing, Pneumonia remains the "boss killer" in his season. A few years ago, the writer believed that it would be a long time before any line of treatment would be evolved that would be superior to a routine of aconitine, veratrine, digitalin, strychnine, calomel, inunctions of guaiacol and camphorated oil, a cotton-lined jacket, besides a few other remedies for individual cases, as the need might arise. However, since adding the employment of bacterins to the foregoing line of treatment, his results have been infinitely better, and he has lost but one patient suffering from this disease; and in this fatal case the environment was such as practically to preclude recovery under any form of treatment. Recently he has had under care at one time eight patients with pneumonia, and all recovered under treatment with bacterins, in conjunction with the usual indicated remedial measures.

On April 29, 1914, the writer first saw a case which well illustrates the possibilities of the bacterins in pneumonia when the doctor is called reasonably early. She was a Scandinavian girl of twelve years. A little over two months ago she underwent an operation, under the writer's hands, for the removal of a gangrenous appendix. She was anemic and in very poor physical condition at that time; but, with the "Murphy drip," Fowler position, free drainage, and the administration of the "Van Cott" bacterin, she made a good

recovery, leaving the hospital three weeks after operation. On April 29, the writer was called to see her, when he found her with a well-developed pneumonia of the right lower lobe. Temperature was then, at 3 p. m., 105.2 F.; pulse, 132; respiration was not counted, but was very rapid and shallow and accompanied by severe pain in the right side of the chest. She had had the initial chill and "pain in the side" that same morning, some seven or eight hours earlier. She was coughing frequently and expectorating blood-streaked sputum. There was dulness over the entire right lower lobe. Her stomach was very irritable and she vomited all medicine given by mouth.

A dose of a stock bacterin containing 24,000,000 killed pneumococci and 18,000,000 killed streptococci was administered at 3 p. m. Within an hour or two, the temperature fell 1.6 degrees, but rose again to 105.6 at 8 p. m. Then the temperature began steadily to fall, reaching 99.6 at 5 a. m., with a pulse of 100. Next day, May 1, the morning temperature had reached 104.8 degrees and the pulse was 115. A second dose of bacterin, identical with the first, was now injected, whereupon the temperature began to fall within five hours, and went down uninterruptedly, reaching 96.2° F. at noon of May 2, only seventy hours after the administration of the first dose of bacterin. The temperature was normal on the third day of the disease, and remained so, the patient being discharged and returning to her home on May 4.

The accompanying chart shows graphically several things: (1) The high temperature at the time of each inoculation with the bacterin; (2) the sudden drop of 1 to 1 1/2 degrees quickly following the inoculation, with as rapid return to about the original level, this marking the brief negative phase; (3) the steady and continued drop in temperature, immediately following the short negative phase, characterizing the positive phase; this drop amounting, in the first instance to 6 degrees, and in the second, to 8 degrees; (4) the gradual return of the temperature to near its former level, as the response of the immunizing mechanism to the bacterin wore off; and the protective substances elaborated, consequent upon the inoculation, were used up in the war upon the invading bacteria; this being the indication for another dose of bacterin; (5) the typical crisis following the second inoculation, the temperature going considerably subnormal and not rising above the normal thereafter; in many cases, following the use of bacterin



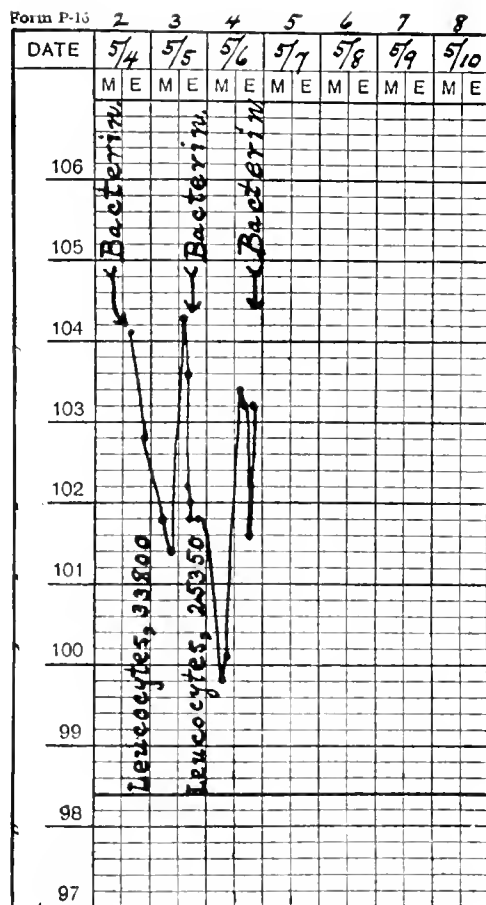
Temperature chart—child of twelve

in pneumonia, the typical crisis seen here is absent, the disease ending by lysis.

Two More Cases

Another illustration. A German-Russian boy of thirteen years entered the writer's private hospital on April 16, 1914. Another physician had made a diagnosis of ruptured appendix, and advised immediate operation. Careful physical examination, however proved negative as to the abdomen, the tympanites and abdominal pain being caused by a collection of fermenting undigested sauerkraut in the colon; all abdominal symptoms disappeared after the administration of an enema.

The real trouble turned out to be pneumonia of the left lower lobe. The temperature at the time of admission was considerably above 105° F. The chart of this case



Pneumonia—girl of thirteen

unfortunately has been mislaid, so the exact temperature cannot be given. The patient was extremely toxemic, being delirious a great deal of the time. This boy was in the fourth day of the attack when brought to the hospital; hence, "aborting" the attack was out of the question.

Three doses of bacterin were administered to this patient, at about 48-hour intervals; smaller doses were given than would have been used had he been seen earlier, the extreme toxemia being considered a contraindication to full dosage. A blood examination showed a leukocyte count of 44,600, with 95 percent polymorphonuclears; this blood-picture was the only hopeful aspect of the case. In spite of the late stage of the disease when the patient was first seen, and in the face of so extreme a toxemia and the existence of marked malnutrition, there was a very gratifying amelioration of the clinical symptoms following each dose of bacterin; the temperature in each instance would drop

several degrees, the pulse slow down, from a rate of 130 to 150, to 100 to 110 beats per minute, and the mind would clear up completely for several hours. The disease finally ended by *lysis*, which I believe was greatly preferable, in this case, to the typical crisis, for the boy had a complicating endocarditis, besides being in an extremely weakened condition generally. There is little doubt that this patient would have died had not the bacterins been resorted to.

Another boy, also a German-Russian of eleven years, was brought to the hospital on April 19, 1914, about twenty-four hours after the onset of a typical pneumonia involving the left lower lobe. His case appeared to be one of average severity, his temperature being in the neighborhood of 103° F. at the time of admission. A dose of a stock pneumostreptococcus bacterin was injected, and, contrary to expectation, the temperature receded to normal within three days; the patient returning to his home on the fifth day after the onset of the attack.

One more case of lobar pneumonia seems worthy of note, and will be cited, to illustrate the action of bacterins in this much-dreaded disease. The patient is a German-Russian girl, thirteen years of age, who is at present under observation in this hospital. She was admitted on the afternoon of May 4, two days ago, at which time her temperature, as shown on the accompanying chart, was 104.1°, and a pulse of 140. She has a pneumonia involving the right lower lobe. About three weeks ago, she had a similar attack, involving the left lower lobe, for which she was treated by another physician, but who does not employ the bacterins in his practice. The case dragged along for quite awhile, and the girl had experienced only one good day when this second attack began, on the morning of May 4. The lung originally affected has not yet entirely cleared up, consequently the prognosis in this case was guarded at the time of the first examination, a little over two days ago.

A dose of bacterin containing 24 million pneumococci and 18 million streptococci was administered at 4 p. m. of the 4th, when a fall of not quite 3 degrees in temperature resulted (no antipyretic drugs were administered); but about twenty-four hours later the fever had reached its former level. Believing that in this instance the initial dose of bacterin had been too small to be productive of lasting good, a second dose, containing 32 million pneumococci and 24 million streptococci, was injected at 6 p. m. of May 5. This

morning (May 6) the temperature was 99.8° F.; pulse, 108. The fever then gradually rose, reaching 103.4° at 1 p. m. At 6 p. m., today, it had again begun to fall, owing, undoubtedly, to the development of a positive phase following the dose of bacterin given twenty-four hours ago. The time to give a dose of bacterin, following a prior dose, is before the positive phase excited by the prior dose has passed off; so, a third dose, containing 12 million pneumococci and 9 million streptococci, was injected at 7:40 p. m.

From present indications, there should be a normal or a subnormal temperature in this case within the next twenty-four to forty-eight hours. The reason for taking up this last case at such length is, to show that even in the most severe cases the bacterin not only is harmless, in therapeutic dosage, but causes a distinct amelioration in the clinical symptoms. These patients almost invariably will tell you of a feeling of wellbeing (euphoria) within twenty-four hours after each dose of bacterin has been administered.

Treatment in Bronchopneumonia

In bronchopneumonia, conditions are quite different from those characterizing lobar pneumonia, the former running a much more protracted course than the latter. Experi-

ence has shown that bacterin-therapy is wonderfully efficient in shortening the course of bronchopneumonia, when used in connection with proper attention to hygiene, the use of the defervescent active principles, hydrotherapy, and so on. The writer has seen a number of cases of bronchopneumonia in which a single dose of a stock bacterin containing the pneumococcus, streptococcus, and the staphylococci has been productive of a cure within a gratifyingly short time.

The bacterin, in cases of bronchopneumonia, is best given in small doses, at two- to three-day intervals. One must be careful to give each succeeding dose before the good effects of the last preceding dose have disappeared; also, the doses must not be administered too close together, else a prolonged and, theoretically, harmful negative phase might result, although the writer, in an experience with the bacterins covering over three years, has never seen a harmful negative phase.

The subject of bacterins in acute infections us such a large one that we have been able to take up but three of these acute infections in the present paper; consequently, more will be forthcoming in the next paper of this series, dealing with other infections in which bacterins are indicated.

Refraction for the General Practitioner

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois

EDITORIAL NOTE.—Are you reading this series? If not, we advise you to do so. Doctor Atkinson is offering a means of financial betterment to those who will take advantage of this course, which gives the foundation facts essential to success in the fitting of spectacles. Wouldn't you like to do some of this work?

IV.

THERE are two general methods of detecting and estimating errors of refraction—the subjective and the objective. The subjective method depends upon the patient's own perception of images under certain predetermined optical conditions; the objective depends upon the refractionist's observation of certain phenomena under similarly defined conditions. It will be seen, therefore, that each of these methods has its advantages and its disadvantages; each its elements of trustworthiness and each its peculiar sources of error.

Strictly speaking, neither method is really objective, for in both the results are determined by subjective observation—in one instance, that of the patient, in the other, that

of the operator. For, in the so-called objective tests, the results are not truly objective, that is, they are not the same irrespective of the operator's condition or behavior, but require certain physiologic states of the operator's visual faculties and judgment. Both methods, therefore, involve the personal factor to a large degree; one, the personal factor in the patient, the other, the personal element in the operator. Hence, it is best in all cases of refraction to employ both methods, so that the one may corroborate and correct the other.

Retinoscopy

I shall describe the objective method first. Practically speaking, there is but one objective procedure, and that is, retinoscopy.

The ophthalmoscope can hardly be regarded seriously in the light of an instrument of refraction. Its usefulness in refraction is limited to the bare disclosure of an error, and at that a very rough estimate of the relative extent of the error. It is of no value whatever in the accurate measurement and the lens correction of such an error. The real place of the ophthalmoscope is in the examination of the fundus, or retinal eye-ground, for evidences of disease. With the retinoscope, on the other hand, errors of refraction can be accurately measured and exactly corrected.

The retinoscope itself has already been described (see first article of this series). Its principle of action is, that it permits the rays emerging from the pupil of the subject's eye to be intercepted in their path by the observer's eye—a thing which cannot be done without some such contrivance. The sight-hole enables the observer to place his own eye in the path of the returning rays which the



Fig. 1. The Retinoscope

mirror throws into the patient's eye, and thus to receive them on his own retina. Ordinarily this is impossible; hence, the black appearance of every other person's pupil to our vision.

The light to be used in retinoscopy, and the conditions of the room, I also have described in my first article, to which the reader is here referred. The observer should seat himself

a little more than 1 meter from the patient. The source of light (which should be as near to the mirror as possible), the observers' eye, and the patient's eye all should be on the same horizontal plane. The patient's accommodation must be thoroughly relaxed during

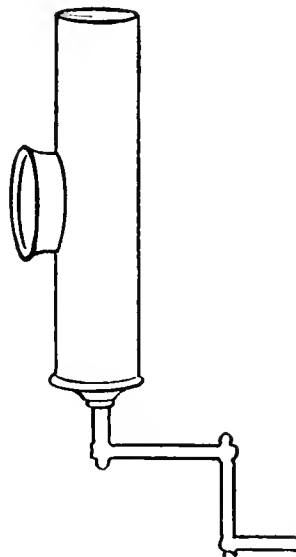


Fig. 2. Illustrates the kind of lamp for retinoscopy

the examination, either by means of a cycloplegic or else by some contrivance for fixing his vision upon some distant object.

Now, with the accommodation at rest, if the patient's refraction be normal, rays of light emerging from his eye will be parallel, and they will still be parallel when they reach the observer's eye at the sight-hole of the retinoscope 1 meter away. If the patient be hyperopic, then the rays emerging from his eye at rest will be divergent; and they will still be divergent when they reach the observer's eye. If, however, the patient be myopic, then the rays emerging from his eye at rest will be convergent; and in that case they may still be converging when they reach the observer's eye, or, if the myopia be sufficiently marked, they may have come to a focus or even have crossed by that time.

This, then, is the question which the retinoscope has to decide. At a distance of 1 meter, are the rays emerging from the patient's eye parallel, are they diverging, are they converging, have they come to a focus or have they crossed? How is this question determined?

The observer applies his right eye to the sight-hole at the back of the mirror and throws the reflected light from the mirror into

the patient's pupil. The observer's eye being now directly in the path of the returning rays from the patient's pupil, the fundus of the patient's eye is seen as a red glare, known as the fundus reflex. Now slightly rotate the mirror, with a twirling motion between thumb and finger, on its vertical axis and watch the patient's pupil. A shadow will be seen to

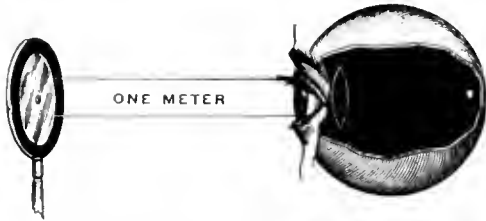


Fig. 3. Illustrates how parallel rays, emerging from an emmetropic eye, never meet, so that when they reach the retinoscope they are still uncrossed, causing the shadow to move against the mirror.

appear alternately from each side of the pupil and to move across it. As a fact, of course, it is not a shadow that moves at all, but the illuminated area of light made by the rays emerging from the pupil, but, as the shadow follows the image and is easier to see, we give our attention to the movements of the shadow.

Now, if the emerging rays have not yet met or crossed by the time they reach the observer's eye, the image and the shadow will move in just the opposite direction to that in which he twirls the retinoscope. In technical language, they will "move against the mirror." If they have met and crossed before they reach the operator's eye, the shadow will move in the same direction as the mirror is twirled; that is, it will move "with the mirror."

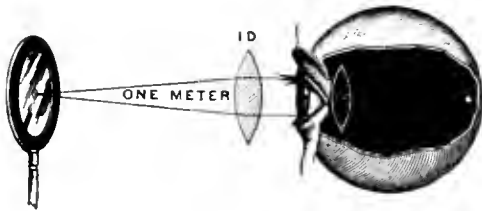


Fig. 4. Showing how parallel rays from an emmetropic eye are brought to a focus at 1 meter by a convex lens of 1 D., bringing the patient's point of reversal at the retinoscope.

Suppose we find that the shadow moves against. How then shall we determine whether the rays are parallel, divergent or slightly convergent. Well, the observer's eye is just one meter away from the patient's—as a matter of fact, a trifle more than one meter, but that is to compensate for the

slight distance between the patient's eye and the lenses which we are going to put up before it. If the rays emerging from the patient's eye, therefore, are parallel, a plus-lens of 1 D. will exactly bring them to a focus at the observer's eye. If they are divergent, it will require a lens of more than 1 D. to do this—just as much in excess of 1 D. as the rays are divergent. If they are convergent, it will need a lens of less than 1 D.—just as much less as the rays are convergent.

The observer knows that the rays have been brought to a focus at the sight-hole when he can no longer produce a movement of the shadow, one way or the other, by tilting his mirror. He can confirm this by moving, alternately, a trifle nearer to and away from the patient when he will see the shadow move a little against and with the mirror, respectively.

The Objects of Retinoscopy

This, then, is the object of retinoscopy: to force the "point of reversal," i. e., the point where the emerging rays meet and



Fig. 5. Showing how divergent rays from a hyperopic eye are still uncrossed when they reach the retinoscope, causing the shadow to move against the mirror.

cross and, therefore, where the movements of the shadow reverse, at 1 meter; and, by the curvature and strength of the lens which it takes to obtain this result, to estimate the character and degree of the error of refraction.

Suppose that, with the retinoscope at 1 meter, we find the shadow moves against the mirror. We put up a 1 D. convex lens before the patient's eye, and then find that at 1 meter distance the rays are just focused, that is, the shadow does not move in either direction. We now know that the rays emerging from the eye are parallel; the refraction is normal.

Suppose, next, that we find the shadow moving against the mirror, and, even with a 1 D. convex lens up, it still moves against. We go on adding convex correction, 0.25 D. at a time, until we make the rays focus at our sight-hole. Say, that we have to put up

2.50 D. convex lens to do this; that means that the emerging rays are divergent to the extent that 2.50 is in excess of 1 D., namely, 1.50 D. The eye is hyperopic 1.50 D.

Again, suppose we find the shadow moving against, and on putting up a 1 D. convex

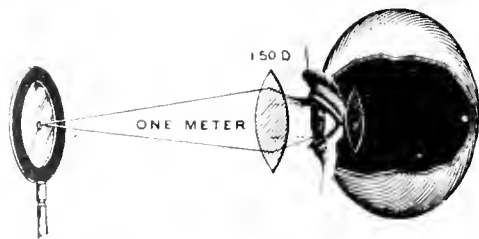


Fig. 6. Showing how divergent rays from a hyperopic eye are brought to a focus at 1 meter by a convex lens as much stronger than 1 D. as the rays are divergent from the parallel.

lens we find it has reversed itself and now moves with. We have overforced the point of reversal. It does not need 1 D. convex to bring the rays to a focus. This means that the emerging rays are not parallel, but convergent. We put up less and less convex correction, until we get the reversal. Suppose that it requires a 0.25 D. convex lens to do this. Then the rays are convergent to the extent that 0.25 D. is less than 1 D., namely, 0.75 D. The eye is myopic 0.75 D.

Once more. We find the shadow moving with the mirror. We know at once that the emerging rays are strongly convergent; the eye myopic. It is of no use here putting up

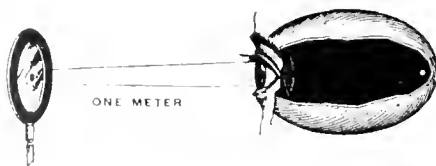


Fig. 7. Showing how convergent rays from a slightly myopic eye are still uncrossed when they reach the retinoscope, causing the shadow to move against the mirror.

convex lenses to force focusing; what we need here is, concave correction to delay focusing, so as to bring back the crossing-point of the rays to the 1-meter distance. Say, we have to use a 0.50 concave to do this. Then the emerging rays are convergent to the extent that minus 0.50 is less than plus 1 D., namely, 1.50 D. The eye is myopic 1.50 D.

Finally, suppose we find the shadow not moving in either direction at 1 meter. Then the emerging rays are convergent to just the degree that nothing is less than plus 1 D., i. e., 1 D. The eye is myopic 1 D. In other words, its own myopia is just equivalent to

the lens that would bring parallel rays to a focus in 1 meter.

A Word on Astigmatism

Astigmatism is a little more difficult to estimate with the retinoscope, but with care and practice it can be measured and corrected with equal accuracy.

Whenever we are using the retinoscope, we should not be content with rotating the mirror in one meridian only, but, having obtained the point of reversal in the customary meridian (the horizontal one), we should rotate it in every other cardinal meridian, to make sure that the refraction is the same in all meridians. If it is not (as will be evidenced by the point of reversal), then we must, by the same process, discover which meridian is the most

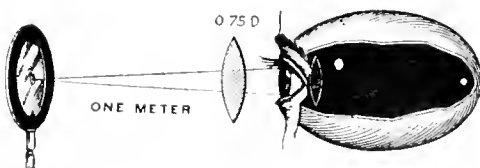


Fig. 8. Showing how slightly convergent rays from a slightly myopic eye are brought to a focus at 1 meter by a convex lens as much less than 1 D. as the rays are convergent.

convex and which the most concave, and then find the point of reversal in these two chief meridians separately.

I shall give more detailed instructions for estimating astigmatic errors with the retinoscope in a separate chapter on astigmatism. I may say, in passing, that, when using the retinoscope, we usually are warned of the presence of an astigmatism by the fact that the shadow made by rotating the mirror has an oblique edge, no matter how the mirror is tilted. Often, also, one edge of the shadow

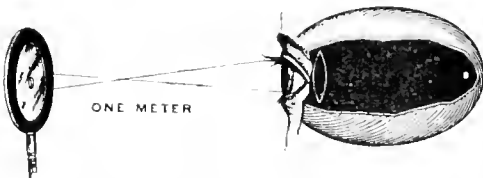


Fig. 9. Showing how convergent rays from an eye that is myopic more than 1 D. have met and crossed before they reach the retinoscope, causing the shadow to move with the mirror.

is clearer and moves more quickly than the other.

General Directions

Since it is the pupil, and the pupil only, that is under examination, movements of the light on the cornea and the face are valueless and only serve to mislead. Hence, the

smaller and more concentrated the disc of light thrown into the pupil, the better. A

sight hole. This plus 1 D. must, therefore, be subtracted from whatever correction was

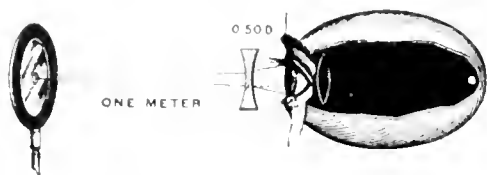


Fig. 10. Showing how convergent rays from a myopic eye are brought to a focus at 1 meter by a concave lens of dioptric strength equal to the excess of myopia over 1 D. The dotted line represents the degree of convergence which would, unaided, bring the point of reversal at 1 meter, i. e., 1 D. of myopia. A 0.50 concave lens renders the convergence equal to this, hence there is 1.50 D. of myopia in the eye.

hole of 10-mm. diameter in the diaphragm of the lamp is a good average concentration.

For the same reason, the tilting of the mirror from side to side, to produce the shadows, should be very slight, so as not to move the disc of light outside the pupil.

The observer's eye must, of course, be further away from the patient than the focal length of the mirror he is using, else, it is evident, the rays of light thrown by the mirror into the patient's eye will not have crossed before they enter it; the image made on his retina will be an erect instead of an inverted one; and the whole process will be reversed. This can be insured by using either a plane mirror or one of not more than 25 cm. focal length for 1-meter work.

In computing the correction in retinoscopy, it is necessary only to remember that plus 1 D. is the lens which brings the normal point of reversal to the

Fig. 11. Showing how convergent rays from an eye just 1 D. myopic come to a focus at just 1 meter, bringing the point of reversal exactly at the retinoscope. The myopic effect of the eye is just equivalent to that of a 1 D. convex lens.

used to obtain the point of reversal. Thus, if minus 2 D. was needed to get the point of reversal at 1 meter, then the proper correction for that eye is minus 2 D. less plus 1 D.,

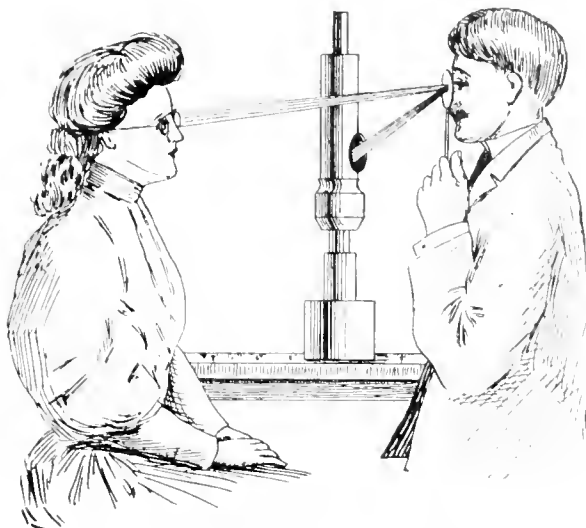


Fig. 12. Illustrates the general technic of retinoscopy.

which is minus 3 D. If the lens strength used was plus 2 D., then the proper correction is plus 2 D. less plus 1 D., or plus 1 D.

A June Morning

Sun's up! Wind's up! Wake up, dearies,
 Leave your coverlets warm and downy,
 June's come into the world this morning;
 Wake up, Golden Head! Wake up, Brownie!
 Dew on the meadow-grass, waves on the water,
 Robins in the rowan-tree wondering about you;
 Don't keep the butterflies so long waiting,
 Don't keep the bobolinks singing without you!
 Sun's up! Wind's up! Wake up, dearies!
 Blackbird wants you in the garden soon;
 You, I, butterflies, bobolinks and clover,
 We've a lot to do on the first of June!

—Charles Willeby in *June Nautilus*.

Facts About Rectal Feeding

A Discussion of Principles and Methods

By CHARLES J. DRUECK, M. D., Chicago, Illinois

IN PRESENTING the subject embraced in the title, I wish to state that I am not so enthusiastic as to suggest this method of alimentation as a substitute for conveying the nutriments by the normal avenue, but rather as a resource in the treatment of certain conditions where it may be desirable or even imperative to relieve the stomach of all food for a time, and thus temporarily sustain the patient by mechanically introducing food-substances into the rectum and colon by way of the anus.

It has long been recognized that all mucous membranes will absorb certain substances and pass them into the lymphatics, but only recently has this knowledge been applied to rectal feeding. Kelsey cites numerous authors who speak of the relative absorbing power of the rectal and gastric mucous membranes, and we find that a considerable proportion of these writers conclude with an evasive statement to the effect that it has not as yet been definitely established that sufficient nourishment may be absorbed by the mucosa of the rectum and sigmoid colon to sustain life. Bauer, for instance, asserts that "not more than one-fourth of the necessary nutriment, even under the best conditions, can be absorbed from the rectum." Such statements, in the light of our present knowledge, must be modified, however, because experience has shown that many patients not only live but some even gain slightly in weight when the injections are carefully given according to the directions that will be described further on.

Thompson ("Practical Dietetics") supported a patient seven weeks, and Flint (*N. Y. Med. Rec.*) tells of a patient who was nourished for fifteen months by rectal feeding alone, and who had been maintained chiefly by this method for five years. These are, of course, extreme cases, but it is safe to say that the average patient may be maintained for three to four weeks by means of artificial feeding exclusively; and this is sufficient time to produce good results in most instances. Friedenwald and Ruhrah, in their work, state that an individual may be thus sustained for from four to seven weeks.

It is true, food given by the rectum cannot yield anywhere near as much nourishment

as when taken into a healthy stomach by way of the mouth, because with but rare exceptions we can utilize only the large bowel; and, yet, I believe that colonic feedings pass through into the small intestine much more frequently than we are prepared to admit. As a matter of fact, in colonic feeding, we certainly supply to the system all of the necessary fluids and inorganic salts, and at least part, and possibly all, of the amount of food required to sustain the individual while at rest.

Feeding by way of the rectum has been objected to mainly on theoretical grounds, with reference to the physiology. As to this, I might reply that, so far as my experience shows, the method of administration very often is at fault.

The rectum proper (that is, the last six inches of the gut) has very limited absorbing power, but Landois has shown that the colon possesses a very marked assimilative power, although the digestive ferments of this part are feeble. Consequently, properly prepared foods are readily taken up from the colon, insuring considerable nourishment to the system.

Recognizing the fact that patients are nourished by foods administered per rectum, while maintaining that the secretions of the rectum have little digestive power, certain authors have advanced most peculiar theories as to how assimilation is accomplished.

Flint, for example, says ("Trans. N. Y. Acad. of Med."), "When food comes in contact with the rectum while the stomach is empty, the gastric and intestinal juices descend to the rectum." Dr. Batty, from experiments on cadavers, concludes that the injected food ascends the whole digestive tract, instead of remaining in the rectum or colon. He thus accounts for the phenomenon of patients being able to taste substances such as quinine or castor oil when administered rectally. C. W. Brown, of Washington ("*Food*," vol. 4, no. 8), cites a case where the patient was able to recognize the taste of potassium iodide or of ergot fifteen to thirty minutes after the substance was introduced into the rectum, and assumes a rapid absorption and transmission through the blood to the taste-bulbs and the saliva. I myself must agree, how-

ever, with Tuttle, in believing that the recto-peristaltic action, whereby the enema is carried through Bauhin's valve into the small intestine, is the exception and that in practice most of the nutrient probably is absorbed directly from the colon.

Voit and Bauer were the first to find that sodium chloride added to meat-juice and peptones greatly adds to their absorability when given in an enema; but the salt stimulates reverse peristalsis to such an extent that many writers (Grutzner and, later, Swieznski) have been able to demonstrate in the stomach substances that have been administered per rectum.

Principles of Rectal Feeding

In rectal feeding, the minutest details are important; and, indeed, the enemata should always be administered by the physician himself, instead of intrusting the task to a nurse, inasmuch as the patient's life generally depends upon his ability to endure continuation of the treatment. If the rectum becomes irritated, it usually means suspension of this mode of feeding; and, yet, only rarely can the feedings be withheld long enough to permit the local trouble to subside. Occasionally it happens that a patient will object to rectal feeding, for esthetic reasons; and then, naturally, the physician must use tact and persuasion.

Before going into the details of rectal feeding, I desire to impress the following facts upon the reader as being very vital to the success of the treatment: (1) The rectum must be free from feces and mucus before giving the enema. (2) Any irritability of the rectum is to be relieved as quickly as possible. (3) The quantity and quality of food introduced must be regulated carefully, to avoid peristalsis and to allow complete absorption of one portion before another is injected.

Indications for Rectal Feeding

Feeding by way of the rectum is indicated under the following circumstances:

1. In temporary obstruction to the entrance of food into the alimentary canal, as by newgrowths, foreign bodies, inflammatory swellings of the mouth, pharynx or esophagus resulting from disease, corrosive poisons such as carbolic acid or ammonia or from hot fluids.

2. In inability to swallow food, as during coma, delirium or in post-diphtheritic paralysis; also during acute insanity when food is refused by the mouth.

3. In gastric disturbances, such as acute gastritis, ulcer or cancer (when it is desired to

rest the stomach), reflex vomiting of pregnancy, or sea-voyages.

4. In stricture of the lower digestive tract anywhere above the colon.

5. In feeble digestion and when emaciation is increasing.

Mode of Administering the Enema

The utmost care is necessary in the manipulations, because irritation and injury to the rectum are inevitable if careless, rough or unskilled attempts are made. I mention the ordinary syringe with the short nozzle only to condemn it. For children, a No. 12 or 14 "velvet-eyed" flexible catheter may be chosen, but for adults a full-sized rectal tube having a caliber of one-half inch should be employed. The rectal tube should be sufficiently rigid to free itself and not bend or double if it catches in a fold of mucous membrane, and, yet, must not be so stiff as to cause pain or damage when introduced. Olive-oil, salad-oil, melted butter or vaseline may be applied for lubricating; but never glycerin, since this tends to excite peristalsis.

Just how far the rectal tube can be passed into the colon is a mooted question. Certain authorities claim to be able to reach the transverse or even descending colon, while others (Nothnagel, Naunyn, Boas) maintain that the tube invariably coils upon itself in the ampulla, or dilated portion of the rectum. Rosenberg and Lilienthal found that by using the sigmoidoscope they could pass a soft tube as far as the middle of the sigmoid flexure, but no farther; the greatest distance being 30 cm., or 12 inches. Soper has carried out a series of experiments, with the patient on the side and in the knee-chest position, and found that the tube invariably coiled up in the ampulla. In *The Journal of the American Medical Association* for August 7, 1909, he shows radiographic pictures of the position of the tube. He shows positively that the rectal tube seldom passes more than six or eight inches into the rectum without kinking and that to introduce it farther causes (1) kinking of the tube and obstruction to the flow of liquid into the bowel, and, so, (2), such distention of the bowel as to stimulate evacuations. This latter fact undoubtedly is one of the causes of failure of retention of nutrient enemata when given "high."

In adults, then, I introduce the tube a distance of six or eight inches. This prevents the ejection of the fluid and brings it in contact with a large amount of mucous membrane. There is also an anatomical reason for passing the fluid high. The blood returned

from the colon, sigmoid flexure, and superior hemorrhoidal veins enters the vena cava, so that substances absorbed by these latter veins do not go through the liver, while substances absorbed higher up pass through the vena porta to the liver and are there further elaborated.

A fountain-syringe or an ordinary stomach-tube and funnel may be attached to the rectal tube. The apparatus must be tried before putting it to use, in order to see that all is in working order. It is well to heat the appliances to about 100° F., so as to prevent chilling the nutrient to be introduced, for fluids if too hot or too cold are promptly expelled; an enema at 90 to 95 degrees being retained best.

When everything is ready the tube is filled with the fluid before introducing, to insure the exclusion of air, because air is very likely to stimulate peristalsis and, hence, evacuation. The injection must be given slowly, occupying ten or fifteen minutes, because rapid infusion also stimulates unwelcome peristalsis. When the tube is nearly empty and before any air has a chance to rush in after the injection, it is firmly grasped and slowly but steadily withdrawn. Then, to aid retention, a soft folded towel should be pressed firmly against the anus for twenty or thirty minutes. This reduces the temporary excitation and the tendency to evacuate.

Cleaning Out the Colon

One of the first essentials for absorption by the colon is cleanliness within. It is very evident that, if the colon or sigmoid flexure is filled with feces or the sides are covered with mucus, it is impossible for osmosis to occur. Consequently, before any nutriment is introduced, the colon must be thoroughly emptied and cleansed.

One hour before the time of giving the morning feeding the colon should be flushed with a high injection of one quart of normal salt solution. A return-flow catheter must be provided, that the water may find easy exit and thus avoid inciting peristalsis. In many instances, one such cleansing each day will be sufficient; but if much mucus is present it is well to precede each feeding with the cleansing clyster, and here the salt should be substituted by two teaspoonfuls of sodium bicarbonate. When the rectum is tender or inflamed, a saturated solution of boric acid is borne best. This procedure washes out any undigested food or waste matter, cleanses the mucous membrane, stimulates the local circulation, and thus provides better absorption.

The proper temperature of the flushing-solution is a matter of some difference of opinion. Tuttle recommends cold water, because he finds that this acts more promptly and, he thinks, leaves the bowel more tolerant to the succeeding nutrient enema. My own preference, however, is for solutions of nearly the body-heat, as they cause less reaction, or, in other words, congestion of the colonic mucosa. The nutrient enema being kept in contact with the tissues for a considerable time, it necessarily must induce some reaction and, if by any kind of treatment we over-stimulate and thus irritate the colon, it promptly expels the entire contents; and this may determine our case unfavorably. A very important point is, to flush out the bowel quite a while before giving the nutrient (in my practice I make this about one hour), and then allow the patient absolute rest in bed.

The tube is introduced with a twisting or boring motion, to avoid its becoming caught in the folds of the mucosa. If it meets resistance, a little of the fluid is admitted and thereby the gut dilated, or ballooned. After the tube has passed the sphincters (about 4 inches), procedure is suspended for a few minutes, until the temporary excitation has subsided; during this period of rest any colon gas present frequently being expelled. The tube then is pushed as high as desired, to bring the fluid into contact with a large amount of mucous membrane and to lessen the tendency toward ejection.

When the tube is nearly emptied and before any air has a chance to rush in after the injection, it is firmly compressed and slowly but steadily withdrawn. To aid retention, a soft, folded towel should be firmly pressed against the anus for twenty or thirty minutes. This reduces the temporary excitement and the tendency to evacuation. The patient should remain quiet for at least an hour and be instructed to do his best to retain the fluid; cheerful conversation by the doctor or attendant diverts the patient's mind and is of much assistance where there is danger of its not being retained.

A correct position of the patient also assists, the left lateral prone, with the hips raised (on a pillow), usually being sufficient; although, if the patient is nervous or hysterical, it is well to adopt the knee-chest posture. In gynecological or obstetrical cases where enemata are given, it must be remembered that tight vaginal tamponing interferes with absorption from the rectum.

The number of injections per day depends

upon the relative irritability of the rectum, and at the beginning they should be one in six or eight hours. If after two days the rectum is in good condition and it is necessary to give small enemata frequently, they may be repeated every four hours. However, frequent clysters usually irritate the rectum and have to be suspended soon.

Care of the Rectum

The exact condition of the rectum must be determined and explicit instructions given to the nurse when it is desired to continue nutrient enemata. Failure often results from leaving this matter to persons ignorant of the anatomy and the conditions to be observed; when, if the attendant were intelligent and skilled in these details all troubles would be overcome. It is the duty of the physician to do the work himself whenever possible.

In the beginning the clysters may be rejected, but when properly prepared and administered the rectum quite often soon acquires a tolerance, so that the nutrient enemata may be administered in sufficient numbers and volume to support the patient for weeks.

Proctitis always is likely to arise, and it is only occasionally that irritation and diarrhea does not occur within two or three weeks. When this does happen, the enemata must be stopped temporarily, to be resumed after the bowel improves. All local troubles, such as ulceration, fissure, fistula, and hemorrhoids are drawbacks. The presence of hemorrhoids is one of the most unfavorable handicaps to the treatment, because they are so easily irritated and inflamed and they then set up a spasmodic contraction of the sphincter. When hemorrhoids exist, great care must be exercised to avoid irritating them by rough usage of the catheter or syringe-nozzle; under these circumstances I always use a soft flexible catheter. If the hemorrhoids are at the orifice, I paint them with a 2-percent solution of cocaine before introducing the fluid, applying immediately afterward a mild astringent and sedative ointment.

During the whole course of such feeding the rectum should be thoroughly emptied and cleansed by flushing with two or three pints of soapsuds and water before the nutrient injection is given. The flushing may be accomplished through an ordinary catheter, but, if a double catheter is used, two or three quarts of water containing a few grains of salt works nicely. If the rectum is irritated and much mucus is present, a saturated solution of boric acid may be used instead. The

flushing washes out any undigested food or waste matter, cleanses the mucous membrane, stimulates the local circulation, and, so, provides better absorption.

Opium in the Nutrient Enemas

Opium in the form of laudanum (from 3 to 20 minims) may be added to the nutrient when irritation exists, but it must be remembered that opium inhibits peristalsis and thus favors retention of the enema, and also interferes with its absorption. Whenever this drug is resorted to, the dosage must be guarded and its action watched. If the nutrient enemata are continued for a protracted period and the rectum becomes irritated, the opiate often acts better if introduced one-half to one hour earlier. When thus administered separately, the volume is so small that it can act locally before the larger nutrient enema is given. The deodorized tincture of opium or McMunn's elixir may take the place of laudanum.

Foodstuffs Suitable for Rectal Feeding

Not all substances administered by mouth are available for rectal feeding. Starches and most of the fats rarely are absorbed from the rectum. Starches partially converted into sugar are absorbed more readily, but not sufficiently so to be serviceable as food. Malt extracts may possibly sometimes be absorbed. Fats and oils are not only not absorbed, but often are rendered worse than useless by coating the rectal lining as well as the food, thus preventing absorption of the latter. Attempts at saponifying or emulsifying the fats have given very poor, or at least doubtful, results.

It is important to select only such substances for rectal foods as will be entirely, or nearly so, absorbed, because all residue acts as a foreign body. However, it has been found that many albuminous foods, although absorbable, act as irritants when given in too great a degree of concentration. Pure peptones, for example, must be diluted with two or three volumes of water or some bland substance. Some albumens, such as of eggs or that made from chopped meat, may be absorbed by the rectum undigested; but even these are better when partly pancreatized.

Albumin is very slowly, if at all, diffusible and must previously be changed into albumose. This may be accomplished by adding pepsin or pancreatic extract to the injection, either some time before administering and allowing digestion to take place outside the body or by adding the ferment

just before giving the clyster and then allow digestion to proceed within the bowel. Catillon, experimenting along this line on dogs, found that the animal fed (rectally) on unaltered egg lost weight and barely kept alive, while the one receiving eggs combined with glycerin and pepsin retained its normal weight and apparently its health. After thirty-seven days the pepsin was omitted, whereupon the dog gradually lost weight.

Itemized Consideration of Foodstuffs

Pancreatized meat.—Pancreatic extract in some form may be employed in preparing proteid food; but it must be fresh, as it does not keep and, so, is likely to act as an irritant. So, also, glycerin extracts of pancreatin will not do, on account of the aperient action of the glycerin. Leube suggests the addition of 1 part of fresh pancreas to 3 parts beef as the best proportions; the pancreas and meat being finely minced and triturated, after the addition of a little water, until it forms a paste. All adhering fat must carefully be removed. A large-nozzled syringe is required for injecting the mass. The principle underlying this procedure, according to Leube, is, that digestion begun outside is continued within the rectum; it being only rarely that the substances are absorbed immediately, while in this shape they may be retained in the bowel for as long as ten hours without detriment.

Mayet suggests practically the same formula, only that he adds the yolk of one egg and allows the mixture to stand two hours before administering. Occasionally it is recommended to add to the beef mixture some hydrochloric acid, and also milk, but the acid is altogether too irritating for intestinal digestion, and artificial digestion must be carried on outside the body.

Blood.—Dried beef-blood has been used as a rectal food, but is not practicable for it usually clots within the rectum and thus prevents the absorption of other substances. Fresh defibrinated blood, 4 ounces every six hours, may be used, but is not recommended.

Milk.—Milk is one of the most satisfactory rectal foods. It should be free of all its cream, while digestion must not be too far advanced outside the body.

Eggs.—Egg-albumen is one of the best,⁷ if not the best, ingredient for rectal feeding. It is absorbed from the rectum, even if unchanged, but is better if predigested with peptogenic or pancreatic powder. Ewald says that egg-albumen, unpeptonized, is absorbed as readily from the rectum as commercial

peptone, but that peptonized egg-albumen is taken up much better. The addition of 15 grains of salt to each injection aids absorption, although it sometimes irritates and, hence, must be used with care. The yolk of the egg is not used, because it contains so much fat mixed with the albuminous matter as to be practically useless. Fats can be absorbed only by the villi of the small intestine, and in no other part.

Glucose.—Invert sugar is absorbed in dilute solution. If given in concentration, it irritates the mucosa and stimulates expulsive peristalsis. Leube recommends 300 cubic centimeters of a 15-percent solution as a maximum.

Stimulants.—The agents of this nature employed in rectal feeding are alcohol and coffee. Each represents a different class, with its specific indications.

Alcohol.—When used for rectal feeding, the alcoholic must be good liquor, well diluted; the brandy, 1-2 to 1 ounce, being added to the portion just before it is administered, but after the process of predigestion. Being irritants, large amounts of alcoholics must never be added. Many times a small injection of 1-2 ounce of whisky or brandy in 1 1-2 ounces of water will be retained and absorbed, when a larger amount of fluid with the liquor incorporated would be expelled. Undiluted liquor added to milk sometimes causes a precipitate by coagulating the casein that has not been pancreatized; however, no solid matter, even if in the form of a fine precipitate, is of use in the rectum, for it merely acts as an irritant.

Alcohol stimulates the bowel and increases the absorbability of proteids. One of the strong points in employing liquid peptones is, that they contain the alcohol well diluted—about 15 percent—together with the same percentage of proteids and carbohydrates.

Coffee.—There are times, especially in post-operative treatment, when it is desired to combat shock, even more than to supply nourishment; and here a pint of good strong, black coffee, containing about 5 to 7 grains of caffeine, will afford prompt and effective support. Whenever such stimulation is needed, the pint of coffee may be substituted for the nutrient enema. Coffee may be given much more freely than alcohol, although, of course, all stimulants are really irritants and, if introduced frequently, will render the bowel intolerant.

Here is a good formula for a nutrient enema containing a stimulant:

Beat the whites of two eggs with a tablespoonful of cold water, add 1-2 teacupful (4 ounces) of a 20-percent glucose solution, in which 1 teaspoonful of starch has been boiled, a wineglassful of claret or 1-2 ounce of brandy, and a teaspoonful of peptone solution. Mix at a temperature not high enough to coagulate the albumen. (Ewald.) I may add that some authorities prefer claret to brandy because of its astringent effect.

About Emulsified Fats

Fats.—In the selection of a food for artificial feeding the caloric units which it represents obviously is important, and it would appear that fats and oils would be preeminent. However, clinically it is found that fats are not only not absorbed, but that, when administered, they tend to coat the mucosa and the other food, and, thus, prevent absorption. This is most unfortunate, because a given amount of fat produces twice the energy than the same weight either of proteid or carbohydrate food.

Attempts have been made to saponify the fats before their administration, and Edsall and Miller have carried out some extensive experiments along this line; but they were unable to find a soluble soap that did not contain so much free alkali as to make it markedly irritating to the bowel.

The only other way of giving fats is in the form of emulsion; but, in using milk and the yolk of egg, it is found that the proteids entangle the fats in the coagulum and stop digestion. With the artificial emulsions much better results have been obtained. Malted milk and pancreatized milk have proven very satisfactory, because the fats are very finely divided by these agents. Either of these two powdered milk preparations named—1-2 ounce dissolved in 5 ounces of saline solution—usually will be well absorbed, and not irritate the bowel. Considerably more fat is absorbed from a preparation of this kind than might be expected.

I, myself, have had good success with a mixture consisting of 1-2 pint of milk and 2

eggs (entire), given at one feeding, with the next injection consisting of pancreatized meat solution. By alternating these foods, the patient receives all classes of food-substances.

The amount of the nutrient injected each time must be determined for each patient. Some can retain not more than 3 or 4 ounces of liquid, and then the clysters must be given more frequently—perhaps every four to six hours. Others will hold comfortably up to 8 ounces, and these need not be fed oftener than two or three times a day.

When the enemas are given at frequent intervals, it is always necessary to add some opiate, since the rectum is sure to become irritated. However, almost always we shall be obliged to add opium after the first few days or a week, and, as the dose must gradually be increased, it is well to begin with the smallest possible dose, say, 5 minims of the official tincture.

Nutrient suppositories.—The form of suppositories sometimes is chosen for conveying the pabulum, the most common articles incorporated being evaporated predigested milk or meat-juice, with cacao-butter as the vehicle. They possess no effective value over enemata, but may prove useful where feeding is to be continued for a longer time.

In concluding, I will add that I do not wish it to be understood that rectal feeding can entirely replace the normal method of ingestion of food, but I do insist that in the proper class of cases, as indicated above, where complete rest of the stomach for a few weeks or less may mean the saving of life, this manner of supplying nutriment will sustain the patient and occasionally even add to his weight. Hunger and thirst are the most annoying symptoms experienced for a few days, but after that the patient is relatively comfortable. The tongue remains clean and moist and the longing for something to eat diminishes, and even disappears. But this point I would emphasize—a large part of the success in this work depends upon the doctor's familiarity with the method employed and his skill in carrying it out.



What Others are Doing

PHYSOSTIGMINE IN TACHYCARDIA

Kaufman reports (*Wien. Klin. Woch.*, 1913, No. 28) remarkable results from physostigmine salicylate in tachycardia. He prescribes it in a 1-percent solution, 3 drops to be taken three times a day, increasing the dose gradually to 10 drops. In certain cases, he combines the alkaloid with a digitalis preparation (digalen).

PSORIASIS CURED WITH ULTRA VIOLET RAYS

Positively brilliant cures of psoriasis (vulgaris) are claimed, by Breiger (*Wien. Klin. Woch.*, 1913, No. 18), by means of the ultra-violet rays. He utilizes a quartz lamp, but so modified by himself that a larger area can be illuminated. Every other day the diseased skin is exposed to the radiation for from five to twenty minutes. Recurrences have not been encountered.

EMETINE HYDROCHLORIDE IN EPISTAXIS

Another illustration of the power of emetine to control hemorrhage is given by Dr. James P. Prestley, in *The New York Medical Journal* for May 2, 1914 (p. 905). This occurred in a woman 73 years old, the wife of a physician, who gave a history of suffering from nose bleeding regularly every night for about ten days. She would wake about 2 a. m., with a choking sensation, and find her mouth full of blood and blood flowing freely from the nose. Her husband had used the usual methods of local treatment without benefit.

When Doctor Prestley was called to see this patient, she had already lost at least a pint of blood and a "regular stream" of blood was flowing freely from the nose. He injected at once 1-2 grain of emetine hydrochloride from an ampule, and in twenty minutes the hemorrhage had ceased entirely. One-half grain more of the drug was given the following day, and the same dose was repeated for five succeeding days. The woman's blood pressure

being high, she was also given tincture of strophanthus three times daily. There have been no recurrences of the hemorrhage.

TRANSPLANTATION OF DENUDED BONE

A section of tibia denuded of its periosteum has been transplanted successfully by H. G. Wetherill (*Jour. Am. Med. Assn.*, 1913, No. 20) into the tibia of a boy. Radiograms taken six months after the operation showed a complete union and regeneration of the bone.

THE LOWEST VAGOPARALYZANT DOSE OF ATROPINE

From the Institute for Experimental Pharmacology at Padua, I. Simon (*Arch. d. Farm. Sper. e. Sci.*, through *Ther. Monatsh.*, 1913, No. 8) reports the following results with experiments on rabbits: The smallest dose of atropine capable of paralyzing the vagus nerve is 0.028 mg. per kilo-weight of the animal. However, there is observed another action of the atropine—in the opposite sense—below that dose; that is, down to as low as 0.006 mg. per kilo-weight the atropine stimulates the vagus nerve, as shown by reduction of the pulse rate, and also increases its excitability, as greater lowering of the blood pressure demonstrates.

PULMONARY TUBERCULOSIS TREATED WITH X-RAYS

Encouraged by their gratifying results (as previously made public), Bacmeister, de la Camp, and Kuepferle, who had treated radiographically rabbits suffering from lung-tuberculosis artificially produced, undertook to try the method upon human subjects. Their results have been reported in the *Medizinische Klinik* (1913, No. 49 Cf. *Ther. d. Gegenw.*, Jan., 1914); detailed description of their procedure being given.

The patients, 15 in number, were treated at the clinic of the University of Freiburg.

They observed uniformly a favorable influence upon the disease-process, in every instance the tuberculous proliferation tissue being destroyed and supplanted by vigorously proliferating connective tissue, which in turn caused decapsulation and growth arrest of the infected nidus—much as in natural healing. However, adjustment of dosage of the rays must be accurate: if excessive, results are much less favorable, although harmful effects were not evidenced.

ACUTE UREMIA TREATED BY LOWERING BLOOD PRESSURE

Acute uremia, in the opinion of Pal, represents a crisis of high arterial pressure, and this accompanied by either a predominatingly cardiac or a cerebral symptom-complex. If, on the one hand, there exists a relative insufficiency of the left heart, a high-pressure dyspnea, with subsequent lung edema, results. When, however, the heart is not incapacitated, the consequence is a passive arterial hyperemia of the brain, the increased pressure being on eclamptic seizures.

Upon this hypothesis, a rational therapy in an acute attack would consist, primarily, in an aim to lower blood pressure; and, to this end, Pal has had recourse to papaverine. He reports (*Wien. Med. Woch.*, 1913, No. 32) that, after the administration of 0.02 to 0.06 Gram of papaverine hydrochloride (hypodermically or by mouth), the high pressure became reduced, and the symptoms of the acute attacks of uremia in his nephritic patients were removed or, on occasion, aborted.

ANTITYPHOID INOCULATION, AND MISSIONARIES

The medical profession in England apparently is as indifferent to the prophylactic value of antityphoid inoculation as the doctors are in America. However, it is interesting to learn from Leopold G. Hill (*Lancet*, Jan. 24, 1914, p. 278) that, since 1908, the Church Missionary Society has been inoculating against typhoid fever all missionaries going to countries where typhoid fever may be encountered. Those returning to the missionary field after furloughs also are inoculated, or reinoculated, as the case may be.

While this prophylactic treatment is not compulsory, its advantages are placed before each individual, and at least 95 percent see the value of the protection and take the treatment. Doctor Hill uses this fact to empha-

size the desirability of a more general resort to this method of treatment among physicians and their patients.

THE ABDERHALDEN TEST IN SCARLATINA

The possible applications of the Abderhalden test, to which we referred editorially in our April issue, are multiplying apace. Thus, for instance, in an interesting review of the subject by Leroy, in the *Paris Médicale* (Feb. 21, p. 297), we find the report of some recent work by Schulz and Grote, quoted from the same publication of May 10, 1913.

In view of the tendency to serous swelling of the lymphatic glands in cases of scarlatina, these authors used in the dialyzer fragments of normal axillary and mesenteric glands, together with the serum from scarlatina patients. Altogether 21 patients were studied. Prior to the sixth day of the disease, the result always was negative, but from that day to the 31st the reaction showed that there was a splitting up of glandular albumin molecules by the defensive ferment. Only in 3 instances were the laboratory results in disagreement with the clinical results. Apparently the proteolytic ferment in these cases appeared at the same time that the eruption provoked it.

A CASE OF ASPIRIN POISONING

A peculiar idiosyncrasy to aspirin is reported by Edward N. Reed (*Jour. Amer. Med. Assn.*, March 11, 1914, p. 773). The patient—a man of 36, a clerk—took 5 grains of aspirin in a capsule, to cure a cold. About half an hour afterward he vomited, and in another fifteen minutes his throat became uncomfortable and he thought tonsillitis was developing. In an hour and a half he had vomited repeatedly, and his condition was serious.

At this juncture the doctor saw him. The face now was cyanotic, the lips and ears were of a violet-blue color, the eyes were edematous, the conjunctiva was injected, the whole face swollen. Breathing was labored, and the nasal mucous membrane so engorged that breathing through the nose was impossible. The pulse ran 120, was soft and full, and the temperature stood at 98 degrees. In the lungs were heard numerous dry whistling râles, but no moist ones. Breathing was what one would expect in case of edema of the glottis. Inspection showed the mucous mem-

brane of the mouth and throat dark and swollen.

This condition lasted only a relatively short time. Within six hours the patient was comfortable, the nose was patulous and breathing normal. The following morning there had appeared a fine, discreet papular rash on the man's trunk. This patient reported that about a year prior to this time he had suffered similar symptoms following the taking of a capsule containing aspirin and acetphenetidin, of each 2 1-2 grains.

THE INITIAL CHILL

The initial chill in practically all acute diseases is due to disturbed balance in the circulation, with abstraction of blood from the surface: so declares Dr. George L. Servoss in the May number of *The Medical World* (p. 188). The indicated remedy therefore is atropine.

Doctor Servoss says that, if we push this drug sufficiently hard to drive the blood out of the congested part and continuing its use until the skin becomes rose-colored, the affection often will be avoided. The Doctor fully believes that, if this drug were used with energy in the initial stage of pneumonia, the disease would be cut short, if not completely aborted. He believes that prompt resort to this remedy should operate to fill the peripheral capillaries, thereby relieving the internal congestion and thus overcoming the chill, fever, and inflammatory action.

Also, Doctor Servoss has seen the initial chill in pneumonia relieved by the prompt administration of aconitine and veratrine, both of which dilate the peripheral capillaries and in that way help to restore the circulatory balance. Furthermore, he has seen a chill caused by exposure, with the capillaries so contracted as to produce blueness of the skin, and a hard-laboring heart, relieved by a dose or two of nitroglycerin.

In his opinion, these different remedies act in much the same way; that is, by restoring the circulatory balance.

THE TREATMENT OF ACNE

A case of acne will usually yield to bacterin treatment within three or four months, declares J. N. Roussel (*N. O. Med. and Surg. Jour.*, Dec., 1913). Not every patient, however, reacts to the bacterins commonly used. This may be due to the fact that the bacterin employed is not the right one; or it may be

owing to intestinal or other derangement that requires correction. Doctor Roussel declares that, in his experience, the Van Cott bacterin has given better results than the others employed by him.

As a rule, it is essential that the patient be given iron or arsenic, and the author finds that a course of hematinic treatment is indicated, not only in the anemic and emaciated patients, but also in a great many of those who are "fat and greasy." Indeed, the latter often do better on iron than on anything else. In his opinion, Donovan's solution has no equal as a tonic in the treatment of these cases. When, however, this preparation is employed, sulphur applications should not be made to the skin, because the sulphur will combine with the mercury of the solution of arsenic and mercury iodide, to form black spots in the skin, thus seeming to multiply the "blackheads" at an enormous rate. Consequently, the use of those remedies separately is suggested.

The combination of arsenic iodide and calcium sulphide often also gives excellent results in the experience of many members of the CLINIC family. Doctor Roussel also advocates the internal use of nitrohydrochloric acid, especially when pus is present.

The best local application is tincture of green soap. The pustules should be opened every two or three days and all comedones should be removed.

BACTERIN THERAPY IN ACNE

An interesting paper upon bacterin therapy is contributed to *The Southern Medical Journal* (March, p. 240) by H. H. Hazen. Among other things, the author reports on his experience with 100 cases of acne vulgaris. Like other dermatologists, he has found that the staphylococcus is of value only when there are pustular lesions, while being useless for removing nodular lesions or comedones. In the latter trouble, a bacterin made from the acne bacillus has proven of marked value.

When working with the acne bacterin, Doctor Hazen says that the average initial dose should be from 15 to 20 million of the dead bacilli. This does should be increased by about one-third at each injection, until from 150 to 200 million dead bacteria are being injected each time. It is difficult to decide either the correct dose or the correct interval, and each patient is a problem in himself. Some do better with small doses frequently repeated, others, again, with large doses given at infrequent intervals.

In pustular cases, as already suggested, the staphylococcus-albus bacterin may, with good advantage, be used in addition to the acne bacterin. Doctor Hazen gives the record of some interesting cases. For instance, one girl of nineteen was entirely cured of an acute acne with a single dose of a bacterin containing 250 million organisms. Another young woman, of 23, who had persistent acne of seven-years' duration, was cleared when doses of 50 million were given at five-day intervals; but when larger doses were employed or larger intervals allowed, there always was a relapse.

BACTERIN TREATMENT OF ECZEMA

In his interesting paper upon bacterin therapy in diseases of the skin, from which we already have quoted (see *South. Med. Jour.*, Mar., p. 240), H. H. Hazen declares that most cases of eczema are either aroused or aggravated by the presence of staphylococci, and here very gratifying results have been obtained. Some of the best results have been obtained in the erythematous and papular types, which refuse to yield to ordinary methods of treatment.

Hazen cites the case of a negro waiter who had suffered severely from erythematous eczema of the scrotum for nearly a year and was in bad physical condition on account of loss of sleep. External and internal treatment had produced no lasting benefit. After the third dose of staphylococcus albus bacterin, the itching began to abate, and after the tenth dose it entirely disappeared. However, it reappeared in two weeks after treatment was discontinued; in fact, it invariably reappeared whenever treatment was stopped, although at last it did yield, and had not recurred for six months.

Another case treated by Doctor Hazen was a physician's wife who had suffered from eczema of the axilla for nearly three years. She was cured in a month by means of staphylococcus-albus bacterin treatments.

A little girl, four years of age, who had suffered from vesicular eczema for two years, was cured by four small doses of staphylococcus-albus bacterin.

THE TREATMENT OF PUERPERAL SEPSIS

An excellent résumé of the modern method of treating puerperal sepsis is given by E. E. Montgomery in *The Pennsylvania Medical*

Journal for March. The foundation of the treatment is elimination, and this is most speedily effected by means of the continuous rectal instillation of normal salt solution. Ordinarily the patient is placed in the Fowler position, half-reclining, and the solution permitted to run in slowly. Should the bowel prove nonretentive, a double tube may be introduced, allowing the fluid to run in and the superfluous fluid and gas to escape; but in such cases the Fowler position can be reversed, that is, the foot of the bed may be elevated. As a rule, however, the half-reclining position, the fluid being introduced very slowly (the Murphy drip), gives the best results.

Care must be taken, though, to see to it that in this procedure the balance between absorption of the intestinal canal and elimination through the kidneys and skin is carefully preserved. Doctor Montgomery has seen marked ascites resulting from overfilling of the bowels when renal elimination was delayed or impaired.

Ice-packs to the abdomen are efficacious in lessening pain, limiting the extension of inflammation and promoting contraction of the uterine muscles. Strychnine, atropine, and ergot may be administered as needed, hypodermically, while digitalis can be given by the rectum. The diet should consist largely of milk and eggs.

The serum and vaccine treatments are highly recommended by Doctor Montgomery, who says he has great faith in the employment of antistreptococcic serum. Ten to twenty Cc., preferably the larger amount, should be given, and repeated, in doses of 5 to 10 Cc., every twelve hours for two days or until its efficacy has been determined. The value of the bacterin is not so certain. Doctor Montgomery, however, is favorable to the use of autogenous bacterins.

FISCHER'S THEORY CONCERNING NEPHRITIS, AND HOW HE TREATS IT

One of the most interesting theories with regard to the etiology of nephritis is that submitted by Martin H. Fischer, of Cincinnati, this hypothesis being set forth at length in his book entitled "Edema and Nephritis;" however, an excellent résumé is to be found in the March number of *The Journal of the Medical Society of New Jersey*.

According to Doctor Fischer, all the changes in the kidney leading to the symptom-complex which we call "nephritis" are induced by the abnormal production or accumulation

within the body, and especially in the kidney itself, of some form of acid. In other words, it is a direct result of acid intoxication. The acids in the kidney act directly upon the protoplasmic colloid material of the cells, which under this influence absorb water, as a result of their increased hydration capacity. In other words, the cells become edematous.

The secondary effect upon the cell is, the precipitation within it of protein material, and this leads to the condition which we know as cloudy swelling, the first stage in cellular degeneration.

Finally, the epithelial cells fall apart, stick together, and loosen en masse, as the cement substance dissolves, and this condition results in the formation of epithelial casts. By more prolonged action of the acids, the epithelial casts are converted into granular casts, and these still later into hyaline casts.

This, in general, is the pathogenic process occurring in nephritis, the parenchymatous form of the disease being taken as the general type. What we call chronic interstitial nephritis is a later resultant from the same process, connective tissue being formed to replace the crowded-out kidney-cells.

With this conception of the etiology of nephritis, the method of treatment devised by Doctor Fischer will be seen to rest upon a sound, rational basis. Briefly, it consists, primarily, in the administration of alkalis, in order to neutralize the acid present in abnormal amount in the kidney as well as in other edematous organs in the body. He also advises the use of salts and of water. Salts are useful, because the various changes induced by acids in the renal colloids are counteracted by any salt, even a neutral one. Water is administered, in order to have more of this present in the body to saturate all of the body-colloids, in other words, to provide the free water necessary for the secretion of urine.

Doctor Fischer also advises the administration of dextrose or other sugar, either by rectum or intravenously: first, because carbohydrate starvation is a very common and potent cause of acid formation, and, second, because sugar is a valuable agent for reducing excessive hydration of protein; or, to put this idea in more simple language, sugar withdraws water from swollen and edematous tissues.

With this conception of the etiology of nephritis, it is easy to understand how errors in diet—especially those associated with excessive ingestion of protein food and indican formation, which leads to high urinary

acidity—may act as a factor in the generation of Bright's disease. Any cause, as a matter of fact, which gives rise to acidemia may also engender chronic disease of the kidney.

The methods of treatment so frequently advised in this journal for the care of the intestinal canal, in other words, the clean-out, clean-up and keep-clean method, together with alkalization of the urine (as shown necessary by tests for urinary acidity), are of primary importance in the treatment of nephritis.

A CASE OF EMETINE POISONING

The first case of emetine poisoning which we have seen reported since the introduction of this remedy as a specific for amebic dysentery, is described by Spehl and Colard, assistants to Prof. Vandervelde of Brussels. This is described in *Province Medicale*, April 18, p. 176. The patient was a man of 28, who had suffered from amebic dysentery since 1911. From time to time there had been acute paroxysms followed by periods of remission, and he had received all the usual remedies, including ipecac.

Upon admission to the hospital he was given 3 centigrams (1-2 grain) of emetine hydrochloride twice daily for six days; thereafter three times daily. Under this treatment the number of stools decreased rapidly, and the abdominal pains were decidedly relieved but did not entirely disappear. Mucus and blood persisted in the stools. At the end of a week, the number of stools had fallen to three or four. At this point the dose was increased to three injections of three centigrams (1-2 grain) of emetine three times a day. This was continued for six days, when signs of intoxication appeared. The symptoms presenting were, general lassitude, noticeable in the lower extremities, but especially marked at the back of the head and neck so that he could no longer hold up his head. The injections were at once discontinued. The sense of fatigue was changed to a flaccid paresis of all the musculature. The voluntary muscle movements were painful. There was some difficulty in masticating, swallowing, and articulating. The voice became hesitating, lower, and monotonous. The pulse became rapid (130 pulsations a minute) and feeble. The face was edematous, and the tendon reflexes were diminished. The quantity of urine was finally decreased, and the percentage of urea and chlorides reduced. There was no albuminuria. In a few days the condition of the patient began to ameliorate,

but recovery was slow. Finally he was able to leave the hospital, complaining of nothing but slight weakness.

The authors speak in the highest terms of the value of emetine in amebic dysentery, although they point out, as did Chauffard and Dopter, that there are certain cases in which the amebas are of the encysted type, and these are more likely to resist the specific action of the drug. In view of the toxicity of emetine shown in this case, they advise that the administration of the drug be not too greatly prolonged. The patient will suffer no inconvenience if the drug is not continued longer than five or six days. To avoid complications, they suggest a series of five injections of 10 centigrams (1-2-3 grains) per day, for instance, after which its administration should be discontinued for several days; then another course of several days' treatment undertaken; this routine to be continued until the disease is cured. If emetine is administered in this manner, they are convinced it will produce its maximum action.

SIMARUBA IN DYSENTERY, AND ITS ACTIVE PRINCIPLE

Martin Mayer, speaking of his experiences in the Institute for Tropical Diseases, at Hamburg (*Muench. Med. Woch.*, 1914, No. 5), tells of one case of severe bacillary dysentery in which emetine proved absolutely worthless, exactly as others have reported; thus showing the action of the remedy to be a specific one upon the ameba (*entamoeba histolytica*), and not purely astringent, as has been suggested.

As an analogous example, Mayer then adduces simaruba-bark. Of this drug he asserts that in the clinic named the alcoholic extract of simaruba is held to be the very best remedy for amebic dysentery, next to emetine; but that, also, like the latter, it utterly fails in the Shiga (bacillary) variety.

This gives Mayer occasion to express strong opposition to the prevailing opinion among pharmacologists, who claim for simaruba-bark purely astringent properties, while he himself long has been convinced of the presence of some special constituent peculiarly antagonistic to amebic life. One proof of this claim he finds in the fact demonstrated by himself that, while the aqueous extract of simaruba-bark subcutaneously introduced is innocuous to rats, the alcoholic extract, contrariwise, is extremely poisonous to them in even minute doses. For this reason, Mayer urges renewed pharmacologic investigations

to be undertaken upon simaruba, with the possibility, even probability, of discovering in it an active principle not hitherto recognized; thus gaining another agent for combating dysentery, and perhaps other forms of chronic diarrhea.

In this connection, it may be profitable to take a brief survey of this subject. Simaruba-bark, and its extract, used to be held in high esteem in Europe as a cure for dysentery and chronic intractable diarrheas, and still enjoys considerable repute among the laity in Germany as with certain clinicians in France. It is significant to recall that the vernacular name (since its introduction from America) in Germany is "dysentery-bark;" and this writer personally has seen several astonishingly rapid cures effected, by the decoction, in men become afflicted in the Civil War and who during many years had vainly consulted doctors.

In modern days, simaruba barely is mentioned in the popular textbook, and then only to class it as a mere variety of quassia—which itself is a much neglected member of our materia medica. The active bitter constituent of all the different species of quassia is stated to be a glucoside, quassin, and there the matter generally is dropped; no less an authority than J. U. Lloyd being very pronounced as to this view.

Turning, however, to Kobert (Kobert: "Lehrbuch der Pharmacotherapie," 1908), we find the following:

"A large number of plants of the family of simarubaceae contain a group of amaras that usually are associated under the name of quassin, but which, in reality, consist of two series of substances that should be differentiated as amaras of the quassin-series and of the picrasimin-series." Kobert then goes on to say that at present the principal use of quassia in Germany is that of a fly-poison, while the French value the glucoside quassin as a stomachic, in doses of 3-4 of a grain, about. Then, however, he continues:

"Various trees of the same or nearly related plant-class furnish drugs which since of old have been highly valued in certain countries as stomachics and tonics; I may mention, for example, the extract of the bark of simaruba officinalis, which, in addition, is a favorite remedy for dysenteric diarrheas."

Then, in a subsequent chapter, and referring to the foregoing, Kobert again mentions, among the constipative bitterstuffs, the extract of simaruba, "to which specific virtues are ascribed, especially in dysenteric diarrheas." And then: "According to latest in-

vestigations—only recently made public—this drug *does not contain quassin, but a peculiar bitterstuff, simarubin.*" (Page 595.)

Clearly, this subject is a muddled one and needs clarification; if *simaruba* pharmacologically differs from *quassia* (as the plant does botanically), we ought to know it. But right here an idea suggests itself.

The botany of these quassoid trees for long was indefinite and, so, the supply of our quassias and *simarubas* has been decidedly unreliable; carelessness and ignorance of the native gatherers adding to the confusion. Besides, laboratory chemistry, more than once, has played havoc with drug-plants, pronouncing against certain ones, when bedside experience and "the people" had found them valuable aids. May not, then, this have been a factor in the relegation of these two bitter drugs, they being collected and sold and used indiscriminately? We have seen the same thing for other drugs that eventually were resurrected or scientifically acknowledged: shepherd's-purse, cactus, and so forth, and so on.

MORE ABOUT QUASSIA AND SIMARUBA

After the foregoing was in type, further reading revealed an unexpected state of affairs. While we are curtly being taught that "quassia" is quassia and that the numerous varieties of *simarubaceous* trees are identical pharmacologically, all containing quassin, and, actually, this drug does not amount to so very much, the curious fact seems to be that science knows next to nothing about them, except as to their botanical identification.

The fact is that there are about a hundred species in this order, and these grouped into four or more genera (*quassia*, *simaruba*, *picrasma*, *picraena*, *simaba*, besides *ailanthus*), and the nomenclature thoroughly mixed; so that virtually the terms "quassia" and "simaruba" are meaningless, in a strictly specific sense. As to *simaruba*, even, we read in the "Realencyklopädie der Pharmazie," dated as late as 1908, that it "is 'said to be' the bark of the root" (unless the ambiguous German phrase is intended as the imperative "must be").

Now as to the chemistry, the standard works definitely assure us that the bitter principle of these various drugs is quassin, and this the only therapeutic one contained. Quassin, as a name, has been known since 1836 (Winckler); since 1890 (about), however, chemists have spoken of this glucoside

in the plural, as members of the group of bitterstuffs peculiar to the *simarubaceæ*; and even the pure quassin from official quassia is claimed to be a mixture of four bodies. (Massute (1890), Flueckiger, and Thess.) The bitter constituent of *picrasma excelsa* has been named *picrasmin*. But, as to this, the encyclopedia above quoted says: "*Picrasmin* is the name given to the bitterstuffs of *picrasma excelsa*. So far as we know today, these bitterstuffs are closely related to quassin; and here also the divers bitterstuffs appear to be members of a homolog series, similarly as has been proven by Massute for quassin. (F. Weiss.)" In the same work we are told that, according to Massute (*Arch. d. Pharm.*, 1890), the bitter principle of *cortex simarubæ* has not been isolated, but it "probably" is quassin. This "probably" we find throughout the texts—but it is a word not to build solid therapeutic structures on. (In this connection, we want to call attention to an anomalous statement in Stedman's Dictionary, viz.: There we find "quassin" enumerated as the "bitter" principle of "Surinam" quassia, and, following that, "quassiin," as the "neutral" principle of "Jamaica" quassia. This certainly is not right!)

(Comment.—Here again we see how important it is for the doctor to deal with pure, definite drug-principles, free from any other disturbing factors. Also, we again realize that experience at the bedside should not be lightly ignored at the behest of men working in the laboratory upon healthy animals, instead of, as does the clinician, with a deranged human organism.)

A FRENCH REPORT ON EMETINE IN DYSENTERY

One of the most complete and interesting reports concerning the use of emetine in amebic dysentery that so far has appeared is that written by Dopter, major in the French army and professor at the Val-de-Grâce military school, and published in the March 14 number of the *Paris Médical* (p. 361 *et seq.*).

Dopter, it appears, in one year has personally treated by the emetine method 57 patients suffering from amebic dysentery, and he paints a striking picture of the wonderfully rapid improvement following even the first injection of emetine in such cases. To quote his words, in free translation:

"Without fear of exaggeration, we can say that within a few hours after the first injection

tion the abdominal pains diminish, to disappear almost entirely or even completely upon the succeeding day. The patients, who suffered severely during the dysenteric attacks, even during the intervals, and always experienced a disagreeable sensation of abdominal tension, declared that after the injections they no longer 'feel their stomach'; at the same time the tenesmus is relieved. In a word, they experience a sensation of perfect euphoria. Furthermore, the stools change in character. Even on the next day the bloody mucus is less abundant, soon disappearing entirely. The discharges are less liquid, becoming pasty, and their number is reduced so decidedly that at the end of a few days (sometimes within forty-eight hours), the discharges resume their normal consistence. I have seen patients weep for joy as a result of this change for the better, a condition they had not experienced for many years."

In addition to the improvement indicated, the microscopic examination shows a diminution in the number of amebas, which lose their endoplasm and become spherical and immobile, although they may be replaced by amebic cysts. The appetite returns, anemia disappears, the patient takes on flesh, and within ten or twelve days after beginning treatment some patients are unrecognizable, owing to their general improvement. This specific action, Dopter declares, is manifested only in dysentery due to the ameba, and for this reason he quotes the suggestion of Rogers, that the drug may be used to differentiate this form of dysentery from other forms.

FAILURES WITH EMETINE

There is no method of treatment, no matter how active or how specific, with which there are not occasionally failures. The emetine treatment of dysentery is no exception to this rule, declares Dopter (*Paris Médical*, Mar. 14, p. 365). One of the causes of failure, which he mentions, is, the association of amebic dysentery with bacillary dysentery in the same subject. Under these circumstances, the drug influences only the amebas, and are without action upon the Shiga bacillus.

At other times, though, and more often, the reason for failure of emetine to cure true amebic dysentery is that the dose administered is too small. Physicians should be more bold. Some clinicians, for instance, Dopter avers, have condemned the emetine

treatment after having prescribed for their patients 2-centigram (1-3 grain) doses for two or three days only. He has seen the dosage increased first to 4 centigrams and eventually to as high as 8 centigrams, and, yet, even when such large quantities of emetine as this were employed the dysenteric symptoms disappeared only slowly, although they were favorably modified. As a matter of fact, cases such as these are the exception rather than the rule.

Dopter is of the opinion that the rapidity of cure depends upon the intensity and the gravity of the pathologic lesion. It is quite certain, he declares, that a deep and extended intestinal ulcer, in which the amebas are abundant and lodged in a poorly nourished burrow and thus not readily accessible to the drug, will resist the action of any medicament much more obstinately than where the lesions are less advanced and the disease more localized.

Furthermore, as Chauffard thinks, there may be cases in which the amebæ have a certain tolerance to emetine. Dopter reports one case in which this explanation seemed possible; nevertheless, he is of the opinion that such cases are very exceptional. At any rate, this is the only one of the kind that he has observed in the considerable number which he has been called to treat.

RELAPSES AFTER THE EMETINE TREATMENT OF DYSENTERY

We now know that recurrences following the use of emetine in dysentery are not infrequent; our good friend Doctor Roemer, of Waukegan, Illinois, for instance, has had to deal with two recurrences in one of his patients. In 57 patients treated by Dopter, there have been recurrences in 15; 3 occurred 28, 30, and 35 days, respectively, after apparent cure; 3 appeared after three months, 5 after five months, and 4 after eight months. One of his patients had two relapses within four months.

Dopter declares that these relapses are more likely to occur when the patient resides in a region where dysentery is endemic. Usually, it seems, the recurrence is readily amenable to a second or even a third course of treatment with emetine. In order to prevent such recurrences, however, Dopter advises a special mode of procedure. It is necessary, first of all, he declares, to employ a sufficient dose; at least 4 centigrams (2-3 grains) should be injected every day until the close of the dysenteric crisis. It is his custom

to continue these injections for four or five days after the appearance of the first molded stool. One even may inject daily 8 to 10 centigrams (1 2-3 to 1 3-4 grains) in attacks that seem unusually severe. It is unusual for patients to experience the least trouble from such doses.

Inasmuch as a recurrence may supervene, especially in hot countries, within eight or ten days after apparent cure, Dopfer says we should adopt the method of "successive treatment" proposed by Chauffard, this being similar to that employed by Laveran in the treatment of malaria. This method is as follows:

Fifteen days after subsidence of an attack under emetine treatment (or in some cases even within eight or ten days), the patient is submitted to the same method of treatment as he was at the beginning. A third course of treatment is given three weeks later, and even a fourth course may be instituted after a similar lapse of time, if thought advisable. Furthermore, in very old cases, it is desirable to give every month, during five or six days, a series of emetine injections. This course of treatment may strike one as rather prolonged, but its disadvantages are slight, indeed, when compared with the long years of suffering which so often characterize this disease.

As to the cause of these recurrences, Marchoux thinks he has found it in the persistence in the stools, of those apparently recovered from dysentery, of a round form of ameba, surrounded by a cystic membrane. These encysted amebæ, while less active and less mobile than the ordinary form, undoubtedly are resistant to medicinal action. In time they give birth to young amebæ, which thereupon exercise their harmful action upon the large intestine and may emigrate directly to the hepatic parenchyma, after the emetine has been eliminated from the blood. It is in order to reach the progeny of these resisting forms that the "successive" treatment of Chauffard is suggested.

THE CONSERVATIVE TREATMENT OF VARICOSIS IN ITS VARIOUS ASPECTS

The operative treatment of varicose veins is as old as civilized medicine, having been practiced—indeed, was the sole resort—by the ancient Romans, Greeks, and Egyptians; and it was not until the period of the middle ages that nonsurgical measures came into vogue. Since then both operative and con-

servative therapy have prevailed; but, with the phenomenal rise of modern aseptic surgery, that treatment has almost completely displaced nonoperative measures, especially within the last decennium, or two.

Nevertheless, there still are within the ranks conservative men, as evidenced, for instance, by the work recently published by G. Nobl ("Der Varikoese Lymphtomenkomplex"); and, so, it is a grateful service performed by Hans Fritsch (of the Rudolfinerhaus, Vienna) in preparing a brief review of the present state of the subject (*Wien. Med. Woch.*, No. 2, 1913); this the more so, in view of the great prevalence of varix and its associated troubles.

Before approaching the subject in detail, Dr. Fritsch points out, with reason, that, inasmuch as we know of no means of restoring to normal a distended blood-vessel, other than by operation, the surgeon of necessity will remain supreme; nevertheless, that fact should not lead physicians incontinently to ignore conservative measures. For, there are numerous instances where operating is out of question for some valid reason; while, besides, nonsurgical therapy often can be of great aid in curing or at least vouchsafing relief.

To begin with, the varicose symptom-complex—following Nobl's statement—may be divided into three groups; namely, phlebectasia, stasis-dermatoses, and ulcus cruris (varicose ulcer); and this is the manner in which Dr. Fritsch has arranged his matter.

2. Phlebectasia. The conservative treatment of varicose veins can consist, necessarily, only in a removal of the causes interfering with free venous circulation, and, also, in preventing further vascular distention. Since space limitations here preclude quoting the author in detail, the interested reader must be referred to the original for names and historical data, together with his comments; we merely can follow him tersely in his leading references.

One of the first considerations is, of course, the victim's or predisposed person's mode of life and occupation, which should be changed if that is responsible for an undue amount of sitting or standing; but compliance often is difficult. The next consideration is the aim to strengthen the musculature, which in turn will affect the blood-vessels—hence, occupation entailing walking. Massage and faradization have the same end in view. A general predisposition toward lax muscles is assumed. Tight garters must be removed. Strangely enough, the author does not refer

to intraabdominal pressure upon the vein (constipation, tumor) which may give rise to varicosis.

The second object—checking progression of the process—is accomplished by compression. The first one to substitute bandaging (from the foot upward) for the sole treatment—operation hitherto in vogue, was Savonarola, of Padua (+1462), while his successor at the university already introduced the laced leather stocking. After enumerating the different modifications of material and construction (including adhesive plaster) subsequently brought into use, and naming their advantages and objections (which it would carry us too far to mention), but praising the elastic stockings, Nobl describes a bandage devised by himself; this being a sort of splint made by applying a layer of cotton to the leg and tightly wrapping with starch-paste bandages, which, when dry, are split vertically. They are firmly bound to the leg with bandages. At the same hospital they also often apply a bandage dipped in waterglass, which, after drying, constitutes a firm, elastic, durable sheath.

Pressure upon the open ulcer is secured, if desirable, by fastening over it a rubber sponge, after first covering the cleaned sore with the medicament of choice (glutol-serum being recommended) and gauze.

Especial praise is accorded by Nobl to certain coverings that not only serve to exert a uniform pressure, but are elastic and, being medicated and applied directly, influence beneficially the diseased cuticle. This covering is employed very extensively at the Rudolinerhaus, and Nobl bespeaks for it a more universal adoption. This is the zinc-gelatin bandage of Unna; and it is claimed that it is cooling and adaptive to changing pressure, thus reducing the inflammatory processes, favoring skin regeneration, and alleviating subjective discomfort.

Unna's formula for his zinc-gelatin basis is: gelatin, 3; water, 9 (soak); glycerin, 5; zinc oxide, 3; liquefy in the water-bath. (In Germany this gelatin is purchasable as "Helffenberger leim.")

The leg, after being shaved, first is thoroughly cleaned with water and soap, then with benzin, and lastly with alcohol. Next a narrow band is placed around the leg at the upper and the lower border of the intended dressing. (This, to obviate disagreeable local drawing of the skin at those points.) Now paint on evenly a moderate layer of the liquefied zinc-gelatin and immediately apply a mull bandage in even passes. When dry,

paint over the whole an elastic varnish. If extra stiffness is desired, several alternating layers of gelatin and mull may be applied before varnishing.

In case an ulcer is to be locally treated, a window, or fenestra, is provided in bandaging. According to the conditions of the open sores and the skin, such a covering may remain for three or four weeks.

In the same manner, Schleich's peptone paste may be utilized, the composition of which is: Witte's dry peptone, 20; wheat-starch, 20; zinc oxide, 20; acacia, 40; lysol, gtt. 15; oil of melissa (or other oil), gtt. 5; sterile water, enough to make a syrupy paste. It is applied in 1- or 2-mm. thickness, the bandage selected preferably being of calico. Being rather brittle, though, these dressings do not last longer than five or six days. Schleich often reenforces the armor by winding with a "blaubinde." (The latter, named repeatedly, is not familiar to the translator.)

Coming now to those methods designed to prevent engorgement of the veins with blood, these principally take cognizance of the Trendelenburg phenomenon. The underlying principle is, to exert localized pressure upon the depleted saphenous vein below the knee by means of a garter provided with a pelotte.

The author briefly refers to the attempts that have been made to cause a recontraction of the dilated veins, but only to condemn them all as worthless. Among the remedies that have thus been employed from time to time are hamamelis, ferric chloride, iodine, sulphur, mercurials, and sodium and potassium salts, given internally, to affect the musculature.

The manifold dermatoses following in the wake of varicoses result from nutritional disturbances and exhibit all the characteristics of acute and chronic forms of dermatitis. Theories as to their development differ; however, they are considered the precursors of the *ulcus cruris*, or, the troublesome leg-ulcer.

In the preczematos stages, as also when papules and weeping or crusting eczema has developed, Nobl gives preference to starch, Venetian chalk, zinc oxide, and Lassar's paste. When there is considerable irritation, he employs cooling poultices or salves, or pastes (raw linseed oil, 2; lime-water, 2; zinc oxide, 3; elutriated chalk, 3). For very painful, deep-seated inflammation, the application of ichthyol (in the form of embrocation, paste or salve) will prove decidedly grateful. Unna's zinc-ichthyol or, also, Las-

sar's paste with 10 percent of ichthyol are equally beneficial.

In the chronic forms, the incrustations must be loosened with the aid of warm soap-water, or with salves containing sulphur, resorcin or salicylic acid. The removal of the luxuriating connective tissue is best effected by tar-preparations.

In the case of painless erosions, when recent, the surface is readily and quickly cleaned with the aid of Burrow's solution (embrocation), or by dressing with alcohol, bichloride, silver nitrate (1-2 to 2 p. c.), resorcin in 1- or 2-percent solution, or with Billroth's batiste (muslin). When secretion is profuse, and associated with inflammation of the surrounding area of the ulcer (which precludes wet-dressing), drying antiseptic dusting-powders are indicated, such as dermatol, iodoform, airol, xeroform, zinc-perhydrol, etc.)

Dr. Fritsch here cautions against a pyocyanus infection which frequently is present, particularly in ambulatory patients. While not serious, it may prove rather annoying, and is especially liable to being transmitted. He advises wearing of rubber gloves by the dresser, and burning of all discarded dressings. The ulcer should be covered for an hour (daily) with a compress wet with alcohol containing salicylic acid and hydrogen dioxide.

Obstinate painless old ulcers are treated with alum, the sulphate of zinc or of copper, tannin (1 or 2 p. c.), and with more or less success. Indolent granulations may be removed with nitric acid, silver nitrate, zinc chloride, trichloroacetic acid, carbolic acid (pure), etc. Granulation is stimulated, according to various writers, by ichthyol, mercury, resorcin, nitric acid, salicylic acid, and hydrogen dioxide.

For promoting epithelization of scar-tissue, ichthyol is useful. According to Unna, 1 to 5 percent of ichthargan in talcum is an excellent keratoplastic. A 10-percent protargol solution also is recommended, as well as a 1- to 5-percent silver-nitrate solution. Latterly, scarlet-red, in form of a 4- to 8-percent ointment, has found favor; but its use must be begun cautiously, stopping it at the least sign of irritation. It is contraindicated in the presence of callous wound-edges.

The fetid odor, when present, is successfully combatted by applications of hydrogen dioxide, potassium-permanganate solution as also (Nobl) with dressings of gypsum bituminatum, or tar-gypsum. For painful leg-ulcers,

of whatever age, Welmer praises three remedies as of exceptional value—anesthesin, propaesin, and cycloform. A little of the powder is first dusted over the wound, and then an ointment (any kind—scarlet-red, peru-balsam, etc.) carrying the medicament is applied. The obtunding induced by the anesthesin is claimed to be of unusual duration. When pain is exceptional, the same writer dresses the ulcer with glycerin of starch holding 20 percent of propaesin.

In concluding this chapter, Dr. Nobl reminds his readers that it is not so much the choice of the medicament that determines success in managing varicose legs, but rather depends upon the energetic and effective compression of the diseased veins. Thus it is that often quite innocent agents, such as boric-acid salve, will effect the cure of extensive ulcerations and dermatides, provided compression is applied, correctly and prolonged; and that in case of severe infection the wound be first effectively cleansed. In subsequent chapters, improvement of the health by physiologic therapy is discussed by the author.

FOR REDUCING FLESH

Some excellent advice for the reduction of flesh, especially in individuals suffering from heart disease, is offered by Dr. John R. McDill (*Wis. Med. Jour.*, Mar., 1914, p. 333). In the first place, it is essential to cut down the amount of food. To do this, the appetite should be controlled by choosing a bland diet, one devoid of such stimulating substances as salt, spices, alcohol, coffee, and other beverages. The patient should gradually eliminate butter and cream and all sweet and starchy food, barring a little bread. The quantity of liquids should be reduced until none whatever is taken with the meals. For thirst, let him eat apples or oranges and drink water, but never until at least three hours since a meal has elapsed. At the table, liquids should be taken through a glass tube, until the craving for drink is overcome. The total quantity of liquid should amount to about three pints, or 1500 Cc., in twenty-four hours. Meat may be taken quite freely when not contraindicated, but without the fat and the flour gravies. Most salads and vegetables may be eaten, also such vegetables as onions, tomatoes, celery, cucumbers, string-beans, asparagus, oyster-plant, spinach, and artichokes. Cabbage in various forms is permitted. One meal a day should be reduced to the minimum. For breakfast, a very good

meal is one consisting of two boiled eggs, half a slice of dry toast, mixed in a hot glass with a little salt. It is best to drink nothing, but, if coffee is insisted upon, use the coffee from which caffeine has been extracted, with a minimum of cream, and sweetening with saccharin.

An occasional "milk-day," as advised in Germany, is suggested. To get the amount of milk required, multiply by 25 the number of pounds over 100 of the body-weight. This gives the quantity required in Grams. For example: If one weighs 250 pounds, multiplying 150 (the excess over 100 pounds) by 25, gives 3750 Grams, or about 4 quarts. The milk may be taken in small amounts every two hours.

The patient should have bath-room scales and keep a record of his weight and appearance; weighing himself twice weekly (without clothing) at the same hour and under exactly the same conditions. The weight should not be reduced more than three pounds per month.

Exercise must be taken in moderation, always stopping when becoming fatigued or when the respiration is hurried, and not resuming until one is thoroughly rested and the breathing and heart action are quieted down.

The only medicament advisable is thyroid extract, which many times is useful.

The antiobesity combination (though it is not referred to by McDill) is an excellent preparation for patients of this class. It does not have the debilitating action of thyroid gland, which latter certainly often is contraindicated.

THIOSINAMIN AS A REMEDY FOR CANCER

Some interesting experiments on the chemotherapeutic treatment of mouse-carcinoma with thiosinamin are described by Harry Koenigsfeld and Karl Prausnitz, of the Pharmacologic Institute of Breslau, in the *Deutsche Medizinische Wochenschrift*, 1913, No. 50. Thus far, it seems, all efforts to influence chemotherapeutically the growth of mouse-cancer have been directed toward interference with the vitality of the parenchyma-cells; while, striking out on new lines, these investigators endeavored to find some agent

detrimental to connective tissue, which is essential to the formation of the struma and, hence, to the nutrition of the neoplasm.

Considering the well-known action of thiosinamin (allyl-thiocarbamide) upon connective tissue, this substance was decided upon for initial experiments, and the results thus far have, indeed, proven quite promising on their face.

The diseased mice received from three to eleven injections (both subcutaneously and intraperitoneally) of, mostly, 5 milligrams (Gm. 0.005) of the substance, and its influence upon the tumor became clearly evident from the very first; while in the control-animals (which were rigidly provided throughout the series) their growth proceeded unchecked.

This effect upon the tumors consisted in their arrest or diminution, and even prevented their appearance if the injection was made within two to five days after inoculation, although there was not a single failure in the control-animals. In some of the mice the appearance of the tumor was delayed for several weeks. Sometimes after the introduction of the thiosinamin there occurred softening, necrosis and sloughing of the neoplasms, with final cicatrization (although the tumor conceivably might have continued growing underneath). Results were less certain if the tumor had attained the size of a prune.

Further experiments completely excluded the thiocarbamide group of the compound as the active factor, that leaving the allyl group as responsible for the phenomena observed. And this was verified by tests with other allyl compounds, although their deleterious influence upon tumor growth was not nearly as pronounced as that of the allyl-thiocarbamide, or thiosinamin.

The authors feel encouraged in prompting further investigations in the direction here seemingly pointed out, although other writers are less optimistic. It is pointed out—by Karl Lewin, Berlin, for instance (*Ther. d. Gegenw.*, Jan., 1913), as well as others—that other noxa capable of injuring bodily well-being often also arrest the development of tumors, so that in the present instance we need not at all assume a specific action of the thiosinamin upon carcinomatous tissue.



Miscellaneous Articles

Narcotic Legislation: That Record Feature

ONE reason for opposing the amendments to the Harrison Antinarcotic bill proposed by Senator Knute Nelson is the provision that the physician shall be required to keep a record of all the narcotic drugs he may administer, no matter how small the quantity, and regardless of the purpose for which they are employed or the form in which they are used. This record-keeping feature plays an important part in the Boylan bill recently passed in New York state (see editorial, page 473), and similar bills have been introduced in other legislatures, New Jersey and Rhode Island, for instance.

The editor of the *Providence Medical Journal* in his May issue in a very witty way—but one not less effective for being witty—shows how laws of this kind would affect the general practitioner. He is discussing the Zurlinden bill, pending in the Rhode Island legislature. We quote as follows:

If the amendment of Section 13, of chapter 178, of the General Laws entitled "of Medicines and Poisons" offered by Mr. Zurlinden, passes both houses, the following will be an extract from the Diary and Daybook of a country physician in this State:

July 1, 1914. New law in force today, so took account of stock.

It shall be unlawful for any physician, dentist or veterinarian to possess more than one and one-eighth ounces of alkaloid cocaine or its salts or alpha or beta eucaine or their salts, of alkaloid morphine or its salts, of heroin. Any person who shall violate any of the provisions of this clause shall be fined \$50 for each offense.

Find I have two ounces of morphia sulphate, 1000 1-4-gr. tablets and four ounces of 4 percent cocaine and a sample of glycoheroin. Query, what shall I do with the excess?

Any person who shall sell, offer to sell, furnish, dispose of or give away alkaloid cocaine or its salts, alpha or beta eucaine or their salts, alkaloid morphine or its salts, or heroin or any admixture, compound, solution or product of which cocaine or eucaine, morphine, heroin or their salts may be an ingredient, except under the conditions and to the persons authorized by this section shall be fined not less than \$100, and not more than \$500, and upon conviction of a second offense shall be imprisoned for a year in the county jail.

Find I can't sell it or give it away, so decided to bury it in the back yard 4 feet S. E. of hencoop.

The law says:

Every duly registered practicing physician, licensed veterinarian, or licensed dentist shall upon delivery to him of any of such substances purchased by him, make or cause to be made in a book kept for the purpose, an entry of the purchase thereof, stating the date of purchase thereof, the quantity purchased, the name and form in which it was purchased, the name and address of the seller, the name of the person by whom the purchase is made, the name of the person by whom the entry is made, a description of the package or container in which the substance is purchased, and a statement that such substance was sold and purchased in the original package, that the package was sealed, that the seals thereon were undamaged and unbroken, and that the labels were attached thereto as hereinabove described and were not in any manner defaced or damaged, and a statement showing how delivery was made, whether personally or by mail, express, freight, or messenger. There shall also be recorded in such book the particular place in which such substances so purchased is to be kept by the purchaser, which place shall be easily accessible and shall be within the state of Rhode Island and shall not be changed except that at the time of such change an entry thereof be made in such book opposite the original entry of the purchase and signed by the purchaser. The record and statement thus made in such book shall be signed by the person purchasing such substance and may be received in any court against the person receiving such substance and against the person to whom the same is sold as evidence of the transaction recorded and the facts stated therein. Such book and record shall be kept in the regular place of business in the state of Rhode Island of such purchaser, and shall be open at all times for inspection by any prosecuting officer in the state or his subordinates and by such persons as may be designated by him. Such book shall be preserved for at least five years after the date of the last entry made therein.

And in accordance therewith the following is the record required:

	MORPHIA.	COCAINE.
Date of purchase.	June 1, 1914.	July 1, 1914.
Quantity purchased.	1 1-8 ozs.	80 grs.
Name and address of seller.	Blanding.	Geo. L. Claffin.
Purchased by.	self.	son.
Entered by.	self.	self.
Description.	9 bottles.	1 bottle.
Original package.	yes.	no.
Sealed.	yes.	no.

MORPHIA	COCAINE
Condition of seals. intact.	broken.
Labels attached. yes.	yes.
Delivery. mail.	boy.
Place kept. top drawer	cupboard over
	of desk. sink.
Signed. John Smith, M. D.	

July 2. Two cases of cholera morbus during night. Gave each two tablets of morphia, 1-4 gr. obliged to furnish certificate.

It shall be lawful for any physician duly registered and licensed to practice in the state of Rhode Island, after personal examination of a patient, to prescribe and himself dispense such substances to such patient, provided he shall execute and deliver the certificate required of a dispensing druggist or pharmacist. When any such substance is so dispensed or sold upon such written prescription of a physician, the person selling or dispensing the same shall simultaneously deliver to the person to whom the same is sold or furnished a certificate stating the name and address of the person selling or furnishing such drug or mixture, the name and address of the physician upon whose prescription the same is sold or furnished, the date of sale and the amount sold.

July 3. Frank Jones's boy got some powder in his eye trying to celebrate the Fourth. Gave him some cocaine to use and had to give another certificate.

July 4. This giving certificates with every case of belly ache is getting tedious. It takes time to write them and they don't always wait. Peter Jenks went off without his and his brother-in-law is sheriff and has it in for me because I sent him a bill.

July 5. Sheriff Bunker appeared this morning and said he understood I had supplied his brother with morphine and called attention to the law, which says:

Every duly registered practicing physician, licensed veterinarian and licensed dentist shall make a record of the amount of each of said substances possessed by him in a book to be kept for that purpose, which may be the book in which purchases are recorded. Such book shall be kept at the regular place of business of each of said persons in the state of Rhode Island, and there shall be specifically stated in such book the amount of each of said substances possessed by the person making the record and the particular place in which the same is kept. Such book shall be open to inspection by any prosecuting officer in the state or his subordinates and by such persons as may be designated by him.

and demanded that I show him how much morphia I had and where I kept it. I had used it so frequently, I forgot to put it back in the drawer and so it was not in the place of record, and just then that darned dog of Jim's brought in an ounce of morphine in a bottle he had dug up in the yard and I was over weight. I am arrested. Bunker is counting the drops of cocaine to see if I have too much.

July 6. Had to make out a long affidavit to the State Board of Health.

If any of the persons entitled to possess such substances in any amount shall possess an amount in excess of that authorized by clause (1) it shall be the duty of each of such persons to report in

writing to the state department of health within thirty days after this act takes effect, the amount of each of such substances possessed by him and the place where the same is kept.

If anybody has a pain that won't be relieved by peppermint, he had better go to Dr. Brown. I am out of business; have no time to spend on patients; am kept busy complying with the law. Last night Frank Thompson's baby got at his whiskey bottle and drank enough to cause his death. I don't notice any law about that. I wonder who Mr. Zurlinden is, anyway.

We are pleased to say that the Zurlinden bill was defeated.

SOME INTERESTING LAY REMEDIES

In the following lines I wish to speak of several therapeutical agents that I have found very effective, and which I did not learn from books or from physicians, but from the old grannies and other lay people.

One of these is the honey-bee tea for spasmodic stricture of the prostate-gland and urethra in man or beast. I first saw it used on an old family horse of my father's (when I was 12 years of age), after two horse-doctors failed to relieve the horse either by medicine or the horse-catheter. An old Southerner said that a tea made from nine live honey-bees in a quart of hot water would make him pass his water within twenty minutes. I had the horse drenched with a quart of the tea, and the old horse deluged the ground with his urine in just seventeen minutes.

After I had begun to practice medicine, I relieved a valuable horse of spasmodic stricture by means of this bee tea, after a well-educated veterinary surgeon had entirely failed after twelve hours' trial.

Later, I gave it to quite a number of my male and female patients, and with seldom a failure to relieve.

I have never seen but one notice of this simple remedy in print, and that was by Professor Eve (in 1850) in *The Nashville Medical and Surgical Journal*. He had confined the wife of a rich plantation owner near Nashville. He visited her on the second day. She had not passed her urine. He tried to draw her water with the catheter, but failed. Prescribed medicine to relieve her. Called next day and found her unrelieved. Tried to draw her water with the catheter, but failed to introduce it. The nurse of the patient was an old-granny midwife for the blacks. She told Doctor Eve that she could give her mistress something that would make her pass her water in a

very short time. The doctor asked to know what it was. She told him it was honey-bee tea. He finally consented to his patient's taking the tea, whereupon the old mammy hastily prepared the tea and gave her mistress two saucerfuls; and the doctor stated that she passed water in less than twenty minutes after she had taken the tea, and with but little pain.

The Doctor asked the negress where she got her information, and she told him all the old negro grannies had used it for as far back as she could remember. It is harmless, and surely effective, according to my own personal experience.

The next good negro remedy is from Arkansas, told of by an old ignorant cooper. I had, in the year 1854, a severe attack of chills and fever, which ran into a violent congestive form. Everything that I and one of the best physicians in the town could think of had failed to stay the chills or reduce the after-fever. On the third day I was seized by a chill at 9 a.m. and it continued till 3 p.m. I vomited continuously, until nothing was left inside but my soul, so it seemed, and I came very near throwing that up, too; I became unconscious, cold up to my knees, and elbows. My doctor gave me up to die. Word went out in town that I was dying, and many old friends came in to witness my exit.

The old cooper spoken of, seeing so many people go into my house, also came in to see what was the matter. My good wife was just applying hot cloths to my chest and body; so, the old man asked what the trouble was. When the doctor told him it was congestive chills, the man asked: "And can't you break the chill?" Told that everything tried had failed, the old fellow assured them he could do it. So, after directing my wife to have some boiling water ready, he went out, and in a few minutes returned with a handful of stinging-nettle tops and roots. These he put into some boiling water, without even washing, steeped them a few minutes and brought in a saucerful of the tea. He ladled this tea into me by teaspoonfuls, none coming up; then he got another saucerful and spooned it down.

When I became conscious I felt a stinging sensation all over and began trying to move my limbs. The old fellow asked me what troubled me, and I said, in a whisper, that something was stinging me. The old man laughed and assured my wife that the chill was broken and that I needed no more medicine, except the nettle-tea. But, in an hour or two, my entire body was broken out with

a rash like the hives, and the limbs were as yellow as dandelions. That rash stayed on for four or five days, and after it disappeared the entire outside skin of my body peeled off, even to the palms of my hands and soles of my feet.

The doctor asked the old cooper where he got this cure for congestive chills, and was told that "down in Arkansaw on the Red River" it was very common among the negroes, and that a big dose of calomel and this nettle-tea was about all they used, and that it was effective.

My next good lay remedy I will name is oats-tea. This I got from an old illiterate midwife, after another physician and I had entirely failed, after a day and night's trial, to stop vomiting in a case of acute gastritis in a lady forty years old. The old midwife said that she found it the only relief in the vomiting of pregnancy. The tea was made from a half pint of clean oats steeped in a pint and a half of boiling water. The woman in this case took a saucerful gradually, and she ceased to vomit after the first swallow of it.

One of the best remedies in acute and chronic rheumatism is the oil and the saturated tincture of fetid hellebore (helleborus foetidus). The oil and the tincture must be prepared from the *green* root of the hellebore, as the active principle (the oil) is entirely lost when the roots are dried. The hellebore roots are the only green roots of which I know that are full of oil. It can be pressed out or got by distillation with water.

I could give you many cases where these proved effective, but space forbids. I have never known the oil of hellebore to fail to give relief in any case of rheumatism or ankylosis resulting from rheumatism. The oil is used for ankylosis by bathing the tendons around the stiff joints and then covering with rubber tissue. The normal tincture is used for the rheumatism three times a day, before meals, in teaspoonful or dessertspoonful doses; or sufficient to produce a little flush in the face and slight dizziness or pains in head. It is a powerful drastic emetocathartic. This remedy I got from an itinerant Indian doctor and also from an Old Country midwife. The hellebore plant is rare, and is known by the laity as bear-foot. It is surely a near-specific in rheumatism and beats all the salicylates and the other drugs in common use by the doctors.

My next lay remedy is one for deep-seated cancer. This is a paste made from wood- or sheep-sorrel (*oxalis acetosella*). It is prepared by bruising a quantity of the oxalis into

a paste and letting it stand in the open air for a day or two. After cleansing the cancerous growth of all pus, apply a coat of the pulp a quarter inch thick all over the raw surface and let remain for two and one-half hours. Then apply a fresh plasma; leave this on for twenty-four hours, and, after removing this, apply flaxseed meal poultices for three or four days, or until all the dead tissue is thrown off in a mass. Now cleanse and dress the wound with a salve made from verdigris until healed.

I got this remedy from an old farmer from Monroe County, Ohio, who said that he was witness to the cure of four cases of deep-seated cancer with the wood-sorrel paste after the best physician in the county had given up the case as incurable. The fifth case was one of my own, and a bad one. I had given up the case as incurable by means of local applications. Then I tried the old farmer's oxalis paste. Result, a complete cure, with no return of the cancer.

In examining the paste, I found it full of minute crystals, perfectly formed, looking like, and as clear as, pure glass. I then studied up the active principle of the oxalis, and found that this is only the oxalate or binoxalate of potassium. I have not been able to use the oxalis paste again, being located where I could not obtain the herb when treating cancerous growth, but I would here suggest the use of the binoxalate crystals in cancerous growths.

My next old-granny remedy is for morning-sickness in pregnancy. I had a case I could not relieve by any known remedy, and when I had given up hope, except to try premature delivery, an old lady midwife called to see the patient when I happened to be there. She asked me if I had ever given peach-leaf tea in such cases; but I had never heard of such use of the tea. After saying she had long used it in such cases with uniform relief, she got my consent to try it. Sure enough, vomiting ceased as soon as the woman had given the tea made from a handful of fresh leaves. The tea was continued for a week or two, and the lady had no more attacks of morning-sickness. I had previously tried dilute hydrocyanic acid without effect. The peach-leaf must have some other active principle besides the hydrocyanic acid.

I must stop at No. 7, as you must know that 7 has been the lucky number since God made this good old earth, both in the old and in the new dispensation.

And if I am suffered to stay a few days longer on this earth I may give you seven

more good remedies obtained from like origin.

I have had an experience of 69 years in the practice of regular medicine and have treated all well-known diseases of this part of North America, save bubonic plague and pellagra, and have tried to keep up with all the improvements made in medicine and surgery in that time. But, I have found that one-half or more of all that is written about in the books and medical magazines is of no personal benefit either to the physician or the patient.

The condensed facts in *THE CLINIC* make it a therapeutic necessity to the busy practitioner. Now, lest I may not weary you again with my crippled letter, I say, "Improve the journal, inside and outside."

I have just received the January number. It looks good outside. Have not looked inside yet, but am anxious to see the inside—so, goodbye. Be as good in the future as in the past, and you will deserve the applause of all your patrons.

J. W. HOFF.

Ann Arbor, Mich.

[Dr. Hoff is, we believe, more than ninety years of age. This is a remarkable paper to come from one of his years—remarkable, suggestive, and valuable.

The plant-genus hellebore includes twelve species, all native to middle and southern Europe, and all containing the same active principles, although in various actual and relative percentages; and for general information the reader is referred to any one of the Dispensatories. As to the particular species referred to by Doctor Hoff—fetid, or stinking, hellebore—that is, botanically, the *helleborus foetidus*, a plant found in our gardens for its pretty flowers. This species generally is considered the most active, a fact acceded to by the American Dispensatory.

It is fortunate that the Doctor further identifies this plant (bear's-foot; fixed-oil content), for some people call the common skunk-cabbage (*symplocarpus foetidus*) also stinking hellebore. One of the species closely allied to *helleborus foetidus* is the *helleborus viridis*, or green hellebore. This fact gives occasion to warn against a possible confusion of this with another poisonous drug-plant, namely, *veratrum viride*, which also is called green hellebore. In view of the danger involved, *veratrum viride* (*liliacæ*; active principle, *veratrine*) never should be called green hellebore, or, at least, one always should specify *American* green hellebore. This plant is absolutely not related to the true green

hellebore (*ranunculaceae*); principal active constituent, helleborin. This is an illustration of the danger in using folk-names rather than a standardized scientific nomenclature. By the way, this *helleborus foetidus* is honored with at least two more names by the "Yankees"—garget and setter-wort.

According to Felter and Lloyd, the herbaceous parts of the latter plant are very acrid and excoriate the mouth when chewed, and the drug acts as an emetic cathartic. Therapeutically little is known in this country. The decoction of 1 dram to 8 ounces of water is employed (dose, 1 ounce) in asthma, hypochondriasis, hysteria, and for tapeworm.

So much for one of the remedies mentioned by Dr. Hoff. Much might be written about the others—the honey-bee for instance. We suspect, however, that some Homeopathic brother will come forward with information regarding *Apis mellifica*.—Ed.]

APPRECIATIVE COMMENTS UPON MARCH CLINICAL MEDICINE

The March number of *CLINICAL MEDICINE* is so good that I feel impelled to tell you just what I think about it. To begin with, there is the editorial on page 200, "Another Burden for the Physician." This would suggest that a petition bearing the names of all the *CLINIC* subscribers be sent to the postmaster general and show him wherein he is wrong.

Then comes the one on "Sexual-Instruction Crusade." This sexual question should not be discussed in school, but, if so, it should be in a postgraduate course or be taught to girls after they are twenty-one years of age, through lectures given in each county by a lecturing staff composed of ministers and physicians, or, cheaper and better, at the appropriate age place a properly written book in the hands of each girl, as at the age of twenty or twenty-one she could not be hurt by plain facts presented in a plain way; many ere this have read "Life's Shop Window," "The Yoke," "Together," "Three Weeks," and "The Countess of Cythera." Their mental virginity at least has been more affected by such reading and by the daily scenes and teachings of our up-to-date life than would be the case from proper teaching on sex-life at the proper age.

"Some Fallacies in Regard to Contagious Diseases," page 221. There is much that is good in this article, though I think that it is a fallacy to say that germs of scarlet-fever, and so on, cannot be carried by clothing.

I think contagious diseases should be quarantined; that quarantine should protect where there is scarlet-fever or the like; that all who remain in the house should be quarantined, and not just the room, patient, and nurse, allowing all the others to go to and from the patient. If a question of bread and butter arises, that is a matter for the county commissioners or board of aldermen of the community.

"Emetine in Dysentery," page 225. This is an excellent article. I think, that an injection of hydrastinine and emetine would be a good treatment of all forms of dysentery and bowel hemorrhage, especially in children where the stomach fails to retain or absorb medicines given by the mouth. Emetine, or rather ipecac, for these diseases is not a new treatment—see Bartholow, 5th edition, 1883, page 267. Here the idea is so well expressed that I beg permission to quote at length.

"Notwithstanding these drawbacks, it must be conceded that ipecacuanha is a most valuable remedy in epidemic and sporadic dysentery. It has been shown that in India, before the introduction of this method of treatment, the mortality from dysentery was about 79.6 per 1000 of cases; but, since the use of ipecacuanha has been generalized, the mortality has fallen to 20.15 per 1000 cases.

"Ipecacuanha has also been used with success in chronic dysentery, but, in the author's experience, it by no means is so beneficial as in the acute. It succeeds best in those cases which are the outgrowth of acute attacks, and in which the intestinal ulcerations are not far advanced. The rules for its administration are the same in chronic as in acute dysentery.

"In the summer dysentery and diarrhea of teething children, ipecacuanha often is extremely serviceable. The special indication for its use is the occurrence of greenish stools, containing mucus and sometimes blood. The stools are usually voided with much pain and straining. At the same time the skin is harsh and dry, the tongue rather dry and pasty or glazed, and there is great thirst, although little or no fever may be present. Ipecacuanha changes the character of the stools, induces perspiration and allays the thirst and dryness of the mouth. From 2 to 5 grains every two hours may be given in these cases or it may be administered in pepsin, oxide of zinc, bismuth or other remedies. Recipe: Ipecacuanha, grs. 12; bismuth subcarb., dr. 1; pepsinæ sach., dr. ss. M. Ft. pulv. xii. Sig.: One in milk every two hours.

"The evidence is conclusive that ipecacuanha possesses very valuable antihemorrhagic powers. It has been successful in hemoptysis, epistaxis, menorrhagia, postpartum hemorrhage. As Peter has observed: 'The vomitive medication' (ipecacuanha) 'arrests not only hemoptysis but all kinds of hemorrhage, and is, therefore, a general "antihemorrhagic" medication.' In hemorrhages, ipecacuanha should be given in frequently repeated doses until vomiting ensues; usually when this effect is produced the hemorrhage ceases. Other antihemorrhagic agents may be combined with ipecacuanha. Recipe: Ext. ipecac, fld., drs. 2; ext. ergotæ fld., drs. 4; ext. digitalis fld., drs. 2. M. Sig.: Thirty drops to a teaspoonful at a dose. The author has witnessed excellent results from this combination in hemoptysis and menorrhagia.

"In the treatment of postpartum hemorrhage, the most suitable combination is, fld. ext. ipecacuanhæ and fld. ext. ergotæ. Trousseau strongly urges the employment of ipecacuanha in postpartum hemorrhage, and, indeed, in the various accidents which occur in the puerperal state, among which he designates gastrointestinal irritation, suppression of the lochia, subacute metritis, pelvic cellulitis, bronchial catarrh, subacute pneumonia."

"Potassium Mercuric Iodide," page 251, is welcome and will prove a godsend. Could not the CLINIC laboratory put it up in convenient shape? This perhaps will serve a good purpose in lavage of the bladder and for injections in gonorrhea, etc.

"The Question of Fees," page 263: Dr. Burnett writes to the point: wish he would give "more light." What would he term a "liberal fee" for different chronic cases by week or month, office treatment or by calls at house; for instance, for treatment of syphilis, rheumatism, scrofulous cases, old ulcers, and so on? We wish to cure as quickly as possible, although to abort or cure a case at once is "suicide" to the pocketbook. How can we show a patient that we deserve a special fee for special services or results?

"A Convincing Demonstration of Typhoid Bacterins," page 266: I believe that we shall realize great things from this line of medication. The article is good though I wish that the writer had been more specific as to dosage, page 267: "4,000,000,000 dead typhoid bacilli were given"—how and when were the doses timed for streptococcus pyogenes, 30,000,000, pneumococcus, 40,000,000, colon bacillus, 40,000,000, and what sites were chosen for injection? To be certain that these cases were typhoid, laboratory tests should have

been made. The treatment suggests other infections.

"To Prevent Professional Suicide:" How can we show the patient and "make our charges in accordance with the speed and sureness of our method," and what would be a proper charge for the abortion or quick cure of a given disease?

"Pituitrin as an Aid in Obstetrics," page 268: Does not this remedy give a too forcing treatment, which all writers condemn, or does it dilate the cervix? If it simply increases uterine action without dilating the cervix, it would have all the dangers ascribed to ergot.

"A New Way to Know When Women Will Be Mothers:" This article is very interesting. Please give us full directions how to make the test, which the article failed to do.

C. W. HUNT.

Brevard, N. C.

[The Abderhalden reaction, used for the diagnosis of pregnancy, was described in an editorial on page 290 of the April number of CLINICAL MEDICINE.—ED.]

INANITION-FEVER

So far as my reading goes, very little has appeared in the journals on this not rare disease, inanition-fever of the newborn, which is a disease of the first five days of life, and is characterized by a rise of temperature, loss of weight, restlessness, and so on, the result of starvation, and independent of a pyogenic infection. While the disease may prove fatal from nonrecognition, on the other hand, cases recognized and treated respond nicely. Observations at the Sloane Maternity established the fact that a rise of temperature to 102 to 104 degrees is quite common. As indicated, the disease is due to some form of starvation, and is not caused by an infection.

My own experience is limited to three distinct cases, in two of which the little ones were noticed to be sick in the latter part of the first twenty-four hours, while in the other case (the last), the trouble was discovered in fifty-one hours. All three were fine, normal infants; two of the mothers were exceedingly strong and healthy and had large families, while the other mother was more delicate and slender, but had no history of disease. The nipples of these women were flat and their breasts small.

The symptoms of inanition-fever are these: An apparently normal infant, in from twenty-

four hours to five days after birth, becomes restless, the face is flushed, lips are cracked, the body is hot, there is an almost continuous feeble whine, pulse is weak and very rapid, and the thermometer will show a temperature of 102° to 105° F.; in 2 of mine it being 102 to 103.5 degrees, and 104 in the last case. Loss of weight is noticed early.

The diseases due to bacteria hardly will be confounded with inanition-fever, the time of appearance of pyogenic diseases being later—five days or more—and then, I believe, the *water test* will differentiate them. There is the whining cry; a dry, hot skin; cracked lips; a temperature of 102° F., or lighter in the first two to four days. Besides, examination of mother's breast for secretion gives a further clue.

It is stated that such children may die, but I do not know what percentage. (Possibly our editor will enlighten us.)

Treatment is very satisfactory and exceedingly simple. Feed boiled and cooled soft water, one ounce every two hours until the temperature is normal; also, depending on the case, give normal salt-solution enemata. Further, change, for the present, from the mother's breast to percentage feeding or a wet-nurse (a scarce article in the country!).

MAYER SHOYER.

Wheaton, Kans.

[Unfortunately, the editor knows very little more about this rather obscure condition than Dr. Shoyer has set forth in his communication; and, although we have searched high and low in our library for literature on the subject, we have been unable to find anything more than the barest mention of the disease, and that only in one or two places. Here is a good chance for enlightenment from the experiences of the readers of *CLINICAL MEDICINE*. Who will volunteer some information?—Ed.]

PELLAGRA TREATED WITH BULGARIAN BACILLI

A good suggestion for the treatment of pellagra is made by William L. Law in *The Journal of the American Medical Association* (July 5, 1913, p. 27), who, in a brief preliminary note, says that in the last five typical cases of pellagra he has treated he has prescribed the Bulgarian lactic-acid bacilli in tablet form, two tablets being taken half an hour before each meal and at bedtime. Doctor Law says that the improvement in

appearance and subjective symptoms of these patients warrants this preliminary report.

This suggestion seems to be a most excellent one. Certainly these tablets are indicated in cases of this kind in which various intestinal antiseptics have been employed with excellent results; and it is to be hoped that many of the readers of *CLINICAL MEDICINE* practicing in the South will give this method of treatment a thorough trial and report their results through this journal.

ENDOMETRITIS BY MEANS OF ELECTROLYSIS*

The treatment of chronic endometritis by means of electrolysis is not new, still, it is not as well known as it should be; for, in this stubborn and persistent condition, it is gratifying to the patient no less than to the physician, provided the treatment is applied correctly. Perhaps the best way to impress upon your minds this beneficial and satisfactory method of treatment will be to recite several cases from my record-book.

Case 1. Woman, age 25, primipara. Never was sick, except for the usual childhood diseases; never had a miscarriage. Appetite, good; bowels, regular; menstruation, always painful; abdomen enlarged as at 4-months' pregnancy; backache, headache; face, sallow and blotched; cannot walk much without getting tired; feeling as if everything is about to fall out when on her feet. Had been curetted four years previous to coming under my observation, and had been subjected to prolonged local medicinal treatment after the operation, but without any relief.

Examination disclosed an enlarged uterus in the normal position, stenosis of the cervix, all other organs in a normal condition, but the ovaries sensitive and painful to bimanual manipulation.

The treatment was given by placing a dilating electrode against the stenosed cervix and attaching it to the negative pole of the galvanic battery; a large pad was placed on the stomach and connected with the positive pole. She received a 5-milliampere constant current for twenty minutes every other day. The stenosis was corrected by the second treatment, when the regular-shaped uterine electrode was substituted.

A most remarkable phenomenon occurred in this case. On my first examination there was no discharge from the uterine canal, but, as the stenosis was overcome, a thick, yellow

*Paper read before the California State Eclectic Medical Society.

profuse discharge followed, and this gradually became lighter in color with each subsequent treatment. In four weeks the woman had had twelve treatments, and by this time the discharge had entirely ceased, the uterus was reduced to the normal size, and, much to her surprise, she was compelled to have her dresses made shorter in front. This was in 1905, and she has been in perfect health ever since.

Case 2. Woman, age 28, primipara. Personal and family-history good; no miscarriage. Always has suffered from painful menstruation; has backache and headache constantly; tires easily at the slightest exertion; unable to pass urine freely. Had been under treatment for eight years, without relief, treatments including tampon applications as well as all sorts of electrical modalities, but never intrauterine electrolysis.

Examination disclosed a stricture of the urethra, also stenosis of the cervix; uterus and ovaries tender to the touch, making marital relations impossible.

In order to overcome the soreness of the pelvic organs, I placed her on a high-frequency couch, inserted into the vagina a glass vaginal electrode, while on the lower part of the abdomen I placed a tinfoil electrode, then made connection with the high-frequency coil. She received this treatment daily for ten minutes, using as much current strength as was comfortable. In two weeks there was cessation of pains.

The stricture of the urethra was overcome by means of the gradual dilation of the canal by the use of the negative direct current, using a 5-milliamperere current for five or ten minutes or until the bulb electrode could pass to contracted portion of the urethra. This was repeated once a week until the normal caliber was reached. The uterus was treated about as in the preceding case and for a period of nearly four months, ending in perfect satisfaction to the patient, who had her confidence restored in the man of medicine.

Case 3. Woman, age 35, multipara. Good family- and personal-history. Illness since birth of baby—ten years. She was hysterical, melancholic, inclined to commit suicide; constantly had backache and headache. Had been curetted and been submitted to various kinds of treatment, with but temporary relief.

Examination revealed an enlarged uterus, painful to the touch, cervical erosion, and a thick purulent discharge from the latter.

An aluminum uterine electrode attached to the positive post of a constant-current battery was inserted into the uterine canal, and a

large pad connected with the negative post was placed on the back over the sacral plexus. Only a 2-milliamperere current was given for ten minutes, and every other day, owing to the sensitiveness of the uterus; this, however, was gradually increased to 5 milliamperes for twenty minutes at a time. Three months of this treatment changed woman to a pleasant, hopeful and ambitious person.

Intrauterine electrolysis tends to promote sympathetic nervous innervation, with the result that patients gain both flesh and strength. This treatment also will reduce weight where one is bloated from a subinvolution of the uterus and consequent large abdomen, as the following case will show.

Case 4. Woman, age 31, multipara (5 children, all healthy); confinements easy. Personal- and family-history good. No organic disease. She was a hysterical and nervous wreck, the least worry or excitement causing collapse and unconsciousness. She had not menstruated for thirteen months past.

Examination disclosed an extremely enlarged uterus, the canal being 4 1-2 inches in depth; tubes and ovaries free from disease. Her weight was 325 pounds.

The treatment consisted of intrauterine positive electrolysis, with the aluminum electrode used about as in the preceding case during a period of two months, in which she lost about 25 pounds, and the uterus contracted to nearly normal. Then, owing to the illness of one of her children, these treatments were discontinued for about two weeks, and during that time pregnancy took place. In due time a healthy girl baby appeared. Three months after this episode, the mother's weight was found to be only 200 pounds, and she said she never had felt better in her life.

I find that a weak current—from 3 to 5 milliamperes—for a period of twenty or thirty minutes gives better results than a stronger one—of, say, 10 milliamperes or over—for a shorter time. It is much more beneficial and soothing and does not cause any disagreeable after-sensations, as the strong one generally will.

I prefer an electrode of aluminum for positive intrauterine electrolysis to copper or zinc, as this metal does not adhere to the tissues acting in this respect like platinum, and with better results than either of the other two.

I wish to warn you, however, that, when treating these cases with this modality, it is absolutely necessary to be certain that no extensive adhesion in the pelvic cavity, pus

tubes or cystic ovaries are present. In that case, electrolysis will stir up a smoldering volcano and will surely cause the patient to lose confidence in you, as it would necessitate an almost immediate operation; and it may even possibly happen that the doctor will be held responsible for this septic or inflammatory condition. This misfortune will never occur if, by a careful examination, the conditions named are excluded before treatment is begun. It is to be expected, of course, that the operator has made the parts perfectly aseptic before applying the electrodes, the latter also having been subjected to the same process. The following case will illustrate this point:

Case 5. Woman, age 22, nullipara. Good personal and family history. Menstruation always painful. Had had several falls at horseback-riding in her early youth. Now was anxious for a child, an heir.

On examination, I found the uterus firmly adherent, stenosis of the cervix, and, on bimanual examination a hard, tense sensation in the cul-de-sac.

I informed the woman that an operation was the only thing that would help her. However, she prevailed upon me to try to obviate that, telling me of several of her friends who had been benefited by intrauterine electrolysis. I consented to try its effect, with the understanding that, if her condition was aggravated by the treatment, I was not to be blamed. As I had feared, though, after the fourth seance of intrauterine treatment, she had to be taken to the hospital for an operation.

A. S. TUCHLER.

San Francisco, Calif.

[Two significant considerations arise out of this report of Dr. Tuchler's. First: It is quite certain that the general practitioner does not avail himself nearly as much as he should of the electrical methods of treatment, especially in gynecology, where it has its largest field of usefulness. We have consistently tried, in many ways, to promote the use of this mode of therapy among our readers, and flatter ourselves that we have done so to a considerable extent. But we are convinced that there is still a very large contingent that has never so much as tapped the possibilities of this promising reservoir of resource. It is a great pity that it is not more universally utilized.

Second: Electrotherapy is neither a cure-all nor an automatic, self-operating system. It is useful only in properly selected cases, and

requires just as much judicious discrimination in its employment as any other medical or surgical agent. Electricity is "a fine mechanism-man, but brains it has nix." The brains must reside in the man who uses it. Without this faculty, electricity in medicine may not only be ineffectual, but may do as much harm as good. How easy, for instance, as Dr. Tuchler suggests, for the doctor to overlook the danger of electrolysis in cases of pelvic sepsis, and then for the untoward results to be blamed, not only on the doctor by the patient, but by the doctor on electrotherapeutics in general.—ED.]

JEWISH RITUAL CIRCUMCISION

A short time ago I delivered a male baby in a Hebrew family and, being asked whether I would circumcise the child on the eighth day, I assented; however, when it was found that I intended to administer an anesthetic, while, further, the rabbi would come from the city and perform the operation for five dollars plus the fare, the thing was off. The rabbi was employed; but, anyway, I was very kindly invited to witness the circumcision and other ceremonies.

I will here affirm that I have great respect for the God of the Jews, perhaps more so than some of the Hebrews themselves, and this is not intended as a criticism of the custom of circumcision or its continuance in this dispensation. But, if the rite must be continued, then, I submit, such modern methods should perforce be enjoined upon those who perform it, whether rabbi or doctor, as not only will make the operation scientific, but humane.

I was told in advance that the operation is almost instantaneous and painless and that, though the child cries, it forgets it as soon as the breast is again given it.

On this occasion the child was placed on a table and the father sat down at its head and grasped the legs and brought them forward on the abdomen, as instructed by the priest. Another person gave the child a cloth nipple to suck, and kept this saturated by dipping it in a cup of whisky, sugar, and water—as the rabbi said, "We get him a little drunk first." Then the operator drew the foreskin through a slit in a flat clamp and when ready began repeating rapidly his ritual formula, while simultaneously making a sawing motion on the foreskin with a small razor. It seemed as though the cutting had to be timed to end with the verbal part of the ritual, which, I

must say, seemed unnecessarily long from the baby's point of view.

After the clamp had been removed and the skin had retracted, he took up a fine-pointed scissors and snipped the mucous membrane in the median line down to the corona. He then turned the corners back with his fingers and trimmed off what seemed to be redundant, but left it long, and with his thumbs and forefingers forcibly broke up adhesions and turned the mucous membrane back of the corona upon the skin margin, like a cuff. No sutures were taken. A little blood was sucked out by placing over the parts a glass globe with a mouthpiece, to which the operator applied his lips.

This done, a narrow bandage was wound tightly around the part just behind the corona, covering the coated skin and mucous membrane. There was no question that this would stop hemorrhage, so tightly was it applied, but it caused turgescence of the glans, external to the dressing, that did not look as though it could be comfortable. There were some antiseptics used, and the work was creditably done in all respects, save, perhaps, one, the brutality of it.

After it was over and the baby had been returned to its nurse, "See," said the rabbi, "the baby is not crying now."

It is doubtless true that the child felt as well after it was over as if a doctor had performed the circumcision under anesthesia, though I can not think it was as comfortable with that tight bandage, necessary from the lack of sutures, as if sutured and dressed accordingly. But this child cried and struggled, just as you would expect from that amount of manipulation, while especially the slitting of the mucous membrane and snipping it off seemed to cause great pain.

I remonstrated with the rabbi, saying that, even in so small a subject, he could place a fairly tight rubber band at the root of the penis and either inject a ring around it, just back of the corona (first freezing the skin, to insert the needle painlessly), with a weak solution of cocaine and adrenalin or quinine and urea hydrochloride, or, if he did not wish to do that, with the band to numb the part and ethyl chloride spray on the line of incision would save the child much pain. However, he did not seem to take seriously the child's helpless and pitiable screams, or my suggestions, either.

It seems to me that in this age of the world the assembling of ten male members of the Jewish church, often some of them mere boys, and the presence, as in this case, of

women and children of tender years at such a performance as a circumcision of a babe after this fashion harks back to barbarism and can have no other than a hardening and brutalizing effect. You could go around this old world and you could not find a Christian mother that would stand for it, nor a father that would hold his eight-day-old babe for such an ordeal. But in the name of religion, successive millions of this race, without any choice of their own, submit to this treatment, because they are little babes and can't help it.

Is it not time to say to these people as one of their number said to them, "Circumcision is nothing;" still, if it must be done, pray, do it in a humane fashion? Give an anesthetic, always, and have it done by a physician, or else stop the practice wholesale. And I believe the Jewish members of our profession would welcome such a move.

J. WALKER.

Iola, Kan.

MOTHERHOOD

In the intervals between the suffering which she had endured since midnight, she again went over their dreams. They wanted a little girl—she would be so much company to them, and they would name her for both of their mothers. She could almost feel the little body in her arms as she rocked it to sleep. She even sang in her mind the songs she would croon to it. And she hoped that the nurse would get the right dress to put on it, the one she had made all with her own hands—the first one she ever had made. If anything should happen to her, there was the best little dress, all trimmed with lace and lovely ribbon, to put on it. And they had even talked of how it would learn to talk and to walk and to call them "mother" and "daddy." Ah, they soon would know whether their dream was to be fulfilled—or if—no, no, she wouldn't think of that!

The hours passed by, slow hours of torture. The pains had become so frequent and were so cruel that she no longer thought of those beautiful dreams; she only thought of how could she bear another such ordeal. The voices of the nurse and the physician seemed far, far away, and they did not seem to relate to herself at all. The perturbed husband by her bedside, his face pale, leaned over and whispered something to the physician. Then, "The doctor says that it will be just a few minutes more, dear, and that you are doing splendidly," he spoke encouragingly, as he bent down over her and stroked her

pallid cheeks. But she could only smile at him, for that dreadful, maddening pain had come on again.

She closed her eyes and, every nerve taut, she said to herself: "How can I stand it? Oh, I can not bear it. They told me not to catch my breath—I'll try to hold out a moment longer, but can I? If only I could relax." Then, "Oh! Oh! O my God!" she unwittingly cried out aloud. And then, harken—

"Ba-ah, ba-ah," weakly, faintly, breaking the stillness of the chamber.

"O! It's come," she whispered—and such a look of holy joy flitted over her face as it is permitted us to see but seldom in a life's time.

"And it's a fine boy, too," the doctor chortled, as he held up a little pink body and gave it a few smart slaps upon the back.

Not a shade of disappointment passed over her face. She smiled and closed her eyes. In a few minutes she again opened them and, glancing at her husband, who still sat by her bed and with his head resting on his hand, said, "I don't care a bit that it's a boy, do you?"

He, a big strong man, yet, his body shook with sobs and tears welled from his eyes when he raised his head. The strain had been too much for him.

"Why, dear," she said, "you shouldn't cry now, everything is all right, the baby is all right." But tears fell on her hand as he leaned over and reverently kissed it.

"You had better go and see how HE is," she murmured.

He soon returned to her, a smile all over his face: "Why, he weighs more than ten pounds and is kicking so that the nurse can hardly dress him." And again she smiled.

When, in a short while, all had been put to order and she lay there in the stillness while the blessed sleep of exhaustion crept over her, she wondered how it was she deserved such happiness. She forgot that she had suffered until every fiber of her body pained so that she scarce dared breathe, and felt so weak that it cost an effort merely to lift her hand. Wasn't everything all right? Wasn't the baby all right? And she smiled in the darkness.

HESTER MATHEWS PORTER.

Burney, Ind.

[This beautiful little cameo of the supreme drama of motherhood could, of course, only have been delineated by a woman, since it portrays the obverse side of the mystery, the side that is turned always inward and seen only by the woman, herself the central figure

in the drama. This particular woman is also the wife of a doctor, which capacity undoubtedly lends an additional keenness to her vision of the great universal miracle. Doctors' wives must be the repositories of a good many experiences and romances to which other women are strangers, and which, if they could and would give them utterance, would make interesting reading. We earnestly wish that the wives of our readers would get into the habit, as their husbands do, of making us, in turn, the repositories of their facts and fancies. We would like to hear from more doctors' wives.—ED.]

THE MEDICAL TREATMENT OF APPENDICITIS

The article under the above heading, by Doctor Vioran, in the March number of CLINICAL MEDICINE, provokes me to offer my own method in similar cases; although I will confess, I have had not more than eight or ten cases in the last eight years that I could confidently class as appendicitis, nevertheless, whenever I am called to care for such a one, my treatment, which has always resulted in recovery, without resort to operation, has been along lines here outlined.

First of all, give the patient an ordinary enema, to empty the lower bowel. After a free evacuation in the Trendelenburg position and have the patient lie with hips well elevated and then slowly introduce four to six pints of warm water containing some sodium sulphate or the sulphocarbolate, meanwhile manipulating the colon gently till the cecum is filled (taking plenty of time).

The results of this second flushing sometimes will surprise even the experienced doctor. All this takes from one-half to one hour. Then give, as may be indicated by the tongue, calomel, podophyllin, and sodium sulphate, in small doses every half hour (or such other laxatives as are needed) associated, possibly with aconite and hyoscyamus or their alkaloids (aconitine, hyoscyamine, atropine), as indicated, these to be followed by a saline laxative or castor oil, according to the condition of the patient.

In some cases where there is special tenderness, I use an application of libradol over the appendix, which gives marked beneficial results. The after treatment consists in the free use of the combined sulphocarbulates, together with aconite, hyoscyamus and belladonna (the alkaloids preferred); besides the high colonic flushing daily.

This is *not* a routine treatment for every case, but so far all my patients treated along this line have been able to go about their business at the end of a week or ten days, after the urgent instruction to continue the high flushing once or twice a week for some time, with the sulphocarbolates daily as needed.

C. A. FREEMAN.

Hobart, Okla.

[We beg the kindly tolerance of our contributors and readers for the delay in printing some of the interesting comments on papers published some months ago. Fact is, our capacity is limited, and we have been compelled to ask some of our friends to wait. But, none the less, we ask everybody to write in freely and often about anything they may see in these pages. We'll use all we can, and as quickly as we can.—ED.]

THE NELSON AMENDMENTS: A CORRECTION

Upon May 1, we received a letter from Mr. Hugh Craig, editor of *The Journal of the N. A. R. D.*, calling attention to two errors which occurred in our April number, in our presentation of the facts relative to the Nelson amendments to the Harrison anti-narcotic bill.

The first error was a mistake in giving the date of the journal in which this appeared. It should have read March 26, instead of March 24, as printed.

The second error was the statement that a quotation we made from *The Journal of the N. A. R. D.* was from editorial matter, whereas, as a matter of fact, it occurred in the body of a letter written by a Wisconsin druggist to his congressman and sent by him to that journal for publication.

We immediately wrote Mr. Craig that the mistake in date was due to an error in transcribing, and that the mistake in the use of the word "editorial" had already been brought to our attention, also that we had corrected this error in our reprint, a copy of which we sent him. We expressed our regret at these errors, which we are glad to bring to the attention of our readers. However, we also called Mr. Craig's attention to the fact that his correspondent's letter (advising, among other things, the changes in the Harrison Bill and which later were embodied in the Nelson amendments) had editorial endorsement when printed in *The Journal of the N. A. R. D.* Furthermore, we assured him that nothing would please us more than to print in CLINICAL

MEDICINE a statement from him that the N. A. R. D. not only did not originate but actually was opposed to the Nelson amendments, should this be the case. His reply to this letter is printed herewith:

I am glad to receive your letter of the 4th inst., together with the revised reprint, although I regret seeing in your latest issue some statements reproduced from other journals which doubtless were guided by your statement, intimating that the National Association of Retail Druggists through its journal or otherwise made the suggestion that resulted in the Nelson amendments. If you will turn to the issue of *The Journal* for April 9, on page 7, you will find an editorial which, although not in harmony with your views on the subject of regulating the distribution of narcotics by physicians, still does not favor the drastic regulation proposed in the Nelson amendment. The impracticability of the Nelson requirement is pointed out in that article but we pointed out none-the-less plainly that the arguments presented against the amendment are not based on fact, only their tenor is that the result of the amendment would be to prohibit the physician from giving to his patients narcotics.

The Association is desirous simply of having every distributor of narcotics placed on an equal basis with regard to the keeping of records without which the effect of the Harrison bill will be nullified.

Our reply to this letter of Mr. Craig's was as follows:

I am in receipt of your letter of May 7, which I have read with much interest. I am certainly glad to learn that the N. A. R. D. does not favor the drastic supervision of the physician proposed in the Nelson amendment.

I read your editorial on page 7 of *The Journal* for April 9 some time ago, and it did not seem to me then (nor does it now) that this disavowed the responsibility of your Association (or, at least, of its prominent officials) for this amendment. The very fact that Mr. Huhn, chairman of your Executive Committee, was instrumental in its introduction by Senator Nelson led us to believe, as I have no doubt it did a great many others, that this amendment had the approval of your organization. A letter written by Senator Nelson to one of our Minnesota correspondents, copy of which I enclose, certainly lends credence to that view, and the fact that certain pharmacists in Wisconsin, as well as those of Minnesota, urged such amendments (including the use of the word "administer") before the Senator introduced them would seem to show that this is something more than a local movement. I also know that a prominent official of the C. R. D. A. has stated that it was their purpose to press this proposed legislation.

However, I am very glad to have your statement and shall take pleasure in presenting it to the readers of our journal. We certainly have no fight with the N. A. R. D., many prominent members of which I am proud to count among my personal friends. I admire most of the work you are doing in the effort to better trade conditions. Whatever the authorship of the Nelson amendments, however, we are frankly opposed to them and certainly shall use what little influence we possess to prevent their acceptance. The Harrison Bill minus these amendments we heartily approve of, and we shall do all we can to secure its passage.

The letter written by Senator Nelson to a Minnesota physician, to which we referred in the preceding letter, is as follows:

DEAR DOCTOR:

Your letter of the 6th, relative to the bill, H. B. 6282 and the amendments I have introduced thereto, is at hand. I enclose you a copy of my amendments, so you will see just what they are. I offered these amendments at the request of Mr. C. H. Huhn, of Minneapolis, Secretary of the Minnesota Retail Druggists' Association, and a member of the Executive Committee of the National Retail Druggists' Association, so that the matter could be considered by the Senate when the bill is taken up for final action. I have no particular interest in the matter beyond seeing the bill perfected so as to accomplish what is desired, namely, the prevention of the excessive and unlawful use of drugs like morphine, heroin, cocaine, etc.

Yours truly,

KNUTE NELSON.

This is only one of a number of similar letters written by Senator Nelson that have been sent us by Minnesota physicians. Apparently it was understood by Senator Nelson that these amendments were handed him by Mr. Huhn acting in his official capacity, not only as a representative of the Minnesota druggists, but also as a representative of the N. A. R. D.

If *The Journal of the N. A. R. D.* had not, through its pages, so repeatedly made known its dislike for dispensing physicians, and if this body, through resolutions passed from year to year at its annual meetings, through the public addresses of its officers, and the activities of its attorney, had not manifested considerable anxiety to reach dispensing doctors and secure the passage of laws prohibiting dispensing, possibly we should be less inclined to question its motives with regard to legislation of the character involved in the Harrison Bill.

SUPPORT THE STEVENS BILL

We have received a communication from the proprietor of the Kiesel Pharmacy, of Lyle, Minnesota, asking us to do something for the general trade—which as he says "would include the drug trade." What our friend wants is the support of CLINICAL MEDICINE, and the physicians who read it, for a bill pending in Congress known as the Stevens bill (H. R. 13305). This bill is intended "to prevent discrimination in prices and to provide for publicity of prices to dealers and the public."

Without going into details (which we cannot do with fairness to ourselves or the bill for lack of time to study it carefully)

we would say that its purpose is to aid the merchants of towns and small cities in their fight against predatory price-cutting, dishonest advertising, and other unfair practices of the great trading monopolies. It is particularly intended to establish the one-price-to-all principle on branded merchandise of all kinds.

This is not a druggist's bill any more than it is a grocer's or hardware dealer's bill. It is really a bill for the protection of all local business and in our opinion it deserves the support of every doctor who is interested in the welfare of his home town.

It gives us much pleasure to bring this matter to the attention of the readers of CLINICAL MEDICINE, and we hope that many of them will join with the merchants of the communities in which they live in bringing the right kind of pressure to bear upon their law-makers to secure the passage of this bill.

DO FOMITES CARRY DISEASE?

I have read with interest the article, by Dr. James E. Stubbs, on "Fallacies in Regard to Contagious Diseases" and find myself in accord with him in a large measure; nevertheless, I desire to cite one instance that will illustrate the exception to his dictum that "fomites will not carry the contagion of the diseases mentioned (rubcola, variola, varicella, scarlatina), any more than they would carry the virus of yellow-fever or of malarial fever." Without looking it up, I assume that the term "fomites" includes clothing, utensils, books, personal belongings, and other things handled by a patient sick with a contagious disease, or otherwise associated with him and his abode.

I have in mind the case of a little 6-year-old cousin of mine, whose parents moved with her from a neighboring city to a farm in this vicinity. About a year later this little girl was taken sick with a typical attack of scarlatina. This occurred at a time when, so far as I could discover, there was no case of scarlatina within miles of her, neither had she been off the place recently enough to have acquired the infection by contact. Also, there were no cases following hers in that vicinity; she was the beginning and end of the scarlatina in that locality for that particular season.

We studied and conjectured over the source of the contagion for some time, until at last her mother happened to remember that the child had received a valentine—a lacy paper affair—from a little boy who had been her playmate in their former home. This the little girl cherished with childish affection and

played with it, as children will, for several days. And—this thing she had received at just about the required time before her scarlatina developed. It was further recalled that the boy had suffered an attack of scarlatina during the previous St. Valentine's season. We then examined the valentine in question, and it plainly showed signs of age and storage was, in fact, one with which the boy had played when sick with the scarlatina and had been resurrected a year later and sent to the girl here. This conclusion later was verified by direct inquiry.

This occurrence proved to me quite conclusively that the contagion, at least, of scarlatina will linger in "fomites" (if a lace-paper valentine is a fomite) for a considerable length of time. While admitting that the child may have received the infection from some other source, I must say that there is not enough ground to base a good argument on.

I, for one, am convinced that we should continue to keep a watchful eye on our "fomites" for a while yet; although I also believe that quarantine should restrict only the sick and their actual attendants, letting the well go about their usual business, provided they do not enter the room occupied by the sick person.

I, myself, acquired scarlatina from a patient after I had begun to practice, and this experience almost made me in favor of abolishing quarantine entirely, so we could get these diseases early and have it over with before our time became really valuable to us; indeed, I find but few people who have not had these contagions, and do not almost regard them as inevitable. For all that, I obey the law and take all the precautions that any physician does, to limit the spread of such diseases.

E. A. FRENCH.

Plainview, Minn.

[The question of fomites and their role in contagion was discussed at considerable length in the last Congress of Hygiene and Demography, which was held in Washington, D. C., being especially the subject of a very comprehensive article by Doctor Doty, of New York. According to Doctor Doty's report, a long and careful series of experiments and observations seemed to discredit the whole idea of communication of so-called contagious diseases by means of fomites. Clinically, however, the distinction between fomites-contagion and infection-carrying is not always feasible, because as yet so little is known of the infectious morbidity of the contagious diseases. In the case cited, for example, the postal card,

may not have been a fomite, in the accepted sense of the term, yet it may have conveyed the infection in a way and under conditions not at present clear to us. Ed.]

EMETINE IN TYPHOID FEVER

The ravages of typhoid fever are constantly being narrowed down, and this because of the introduction of the typhobacterin, together with a rational common-sense treatment in general. But, still, we have to deal with it occasionally in its old-time severe form; that is to say, in which the all-dreaded hemorrhage becomes a factor. Now, however, the more I reflect upon it, the more I become convinced that emetine is the only safe, sane, reliable remedy indicated for combating this alarming complication. And here is an illustration.

The patient, a man, although unwell, with a moderate infection, did not realize the fact and had worked throughout the first week of the attack. But one morning he had three severe hemorrhages, when I received a hurry-call.

On reaching the patient, I dissolved six 1-64 emetine tablets in my syringe and injected it. I also injected atropine and morphine. In addition, I left a supply of the emetine tablets, one to be given at hourly intervals. The next morning he experienced a slight hemorrhage, no more after that. The emetine was kept up till the danger-period was passed.

I have made up my mind to use emetine routinely in every case of typhoid fever, beginning about the second week. What do you think about it?

A. M. McCUISTON.

Atlantic, N. C.

[The value of emetine hydrochloride in the treatment of hemorrhage is now well established. Others beside Doctor McCuiston have reported good results from its use in this complication of typhoid fever. It will not always succeed—no remedy will do that—but it has given very satisfactory results and promises to take first rank as an anti-hemorrhagic.

I hardly think I should use emetine as a routine remedy in typhoid fever, for the purpose of preventing hemorrhage from the bowel—but "I am from Missouri." Let's have clinical evidence. However, I have found that when the bowels are given a thorough initial cleaning out, are kept clean by proper measures throughout the disease, and

fermentation prescribed by the persistent use of sulphocarbolates in dose enough, this complication practically never occurs.—Ed.]

A PRESCRIPTION FOR TONSILLITIS

Dr. E. H. Sholl, of Birmingham, Alabama, kindly sends us a prescription for use in cases of tonsillitis; being led to do so by reading Doctor Canan's article on this subject printed in the April issue.

Doctor Sholl informs us that he has been actively engaged in practice for more than fifty years and that the mixture he has been employing in tonsillitis certainly has stood the test of time. He believes that a rheumatic diathesis usually is responsible for recurrent attacks of tonsillitis and that this may explain the efficacy of the combination. His formula is as follows: Potassium chlorate, powder, grs. 60; spirit of nitrous ether, drs. 4; tincture of guaiac (9 percent), ozs. 2.

Take one teaspoonful, without water, every hour for three doses, then every three hours till relieved. (Shake well.) Follow each dose by a drink of water.

PHYSICIANS WANTED

We have just received from a druggist in a live little Wisconsin town a request for a Norwegian physician to take the place of a doctor who has just died. The druggist writes that the doctor "must be a Norwegian or else be able to speak the language, and he must have had experience."

Any physician who can fill these requirements is respectfully invited to communicate with us. We will put him in touch with the proper person.

We also have a call for a young physician to go to New Mexico to associate himself with an older man whose work is too hard for him to handle alone.

SOME THERAPEUTIC SUGGESTIONS

Permit me to offer a few practical suggestions, based upon personal experience.

Give sodium or strontium salicylate to abort pneumonia. When the patient is seen early, I prescribe 5 grains of the drug every three or four hours for adults, in connection with treatment indicated for the first twenty-four hours. Very often at the end of this time congestion is relieved, no true solidification taking place.

A rigid os uteri often can be relieved by

the hypodermic injection of 1-4 to 1-3 grain of emetine hydrochloride.

Rhus poisoning can be cured as if by magic with fluid extract of *grindelia robusta*, using 1 part in 8 of water locally. A few applications do the "biz."

I got instant results, this past fall, in the case of four or five babies, who were having bloody mucous discharges and great tenesmus, and who had been getting worse on the ordinary treatment, by giving them 1-64-grain granules of emetine hydrochloride every two hours by mouth. The blood and mucus stopped at once.

Pituitrin, hypodermically, has saved me plugging the nose to stop bleeding. Pituitrin has also appeared to give me good results in two cases of puerperal convulsions.

J. S. CARRIGER.

Chelsea, Okla.

BACTERIN THERAPY

Bacterin therapy is an addition to our curative armamentarium that is absolutely scientific and applicable to many conditions not amenable to other methods; or, as an accessory, it has few equals. It has had its blows just as many other of our therapeutic agents have had in the past; but the fault has not been with the method so much as with the user. Every new therapeutic measure has been tried in conditions entirely out of its sphere; examples of which we see in massage, electricity, and the various forms of mechanotherapy.

The essential fact in bacterin therapy is to ascertain positively the etiological bacteria—those causing the morbid process—and then to use the indicated bacterin; but, when we stab blindly, we are not "playing a square game," and the fault then is not with the method but with the man.

The autogenous bacterin, of course, is to be preferred; but, when it is possible to ascertain the dominant type of bacteria present, the stock bacterin can be used either only temporarily, or until a cure is effected in cases where satisfactory results are being obtained.

Two cases from practice will be cited.

A woman patient had been afflicted with chronic bronchitis for twenty years. She expectorated large quantities of mucopurulent sputum of a very offensive odor. Repeated analyses of the sputum showed an absence of tubercle bacilli, but the presence of a varied flora of other bacteria. Finally a specimen was sent to The Abbott Alkaloidal

Company, whose bacteriologist isolated the bacteria present and then prepared an autogenous bacterin in ampules. The patient received a dose every four days, and after the third dose she began to show material change in her condition by rapid improvement. The character of the sputum changed, the cough was less severe, and her general health became better than had been for many years.

The other case is that of a boy 13 years of age who had asthmatic attacks for six years standing, due to chronic bronchitis. The bronchorrhea was unusually copious, causing constant and intolerable coughing and expectorating. He had been the "rounds" medically, but without any abating of the trouble. I had an autogenous vaccine made from the sputum, and the boy received twenty-four doses. The results were remarkable; the frequent asthmatic attacks, which were a nightly affair, ceased and the bronchorrhea vanished entirely. The result here could not be an accident, and it only is given as an example of what we may expect from bacterin therapy in many other cases.

Bacterin therapy is here to stay, but it must be employed wisely and for a definite reason.

Altoona, Pa.

CHAS. W. DELANEY.

IS DIPHTHERIA REALLY CONTAGIOUS?

Apropos of Dr. J. E. Stubbs's article in this journal, entitled "Some Fallacies in Regard to Contagious Diseases," corroborating what he shows to be facts of observation, I wish to relate an experience in my own practice.

When, a few years ago, I happened to stop over Sunday in the town of Oroville, Washington, two lads went out hunting. They laid a shotgun upon a sloping rock and proceeded to pick berries. The gun slipped, was discharged, and both of them were hit, the one having a hand severed at the wrist, the other having the triceps muscle of one arm severed down to the bone.

The local physician being absent, I was called in aid. I had them taken to the doctor's office and performed the necessary operations, the druggist giving the anesthetic. During the operations the office was crowded with sightseers. After completing the operations, I incidentally learned that one of the boys had been sick about a week with what the local doctor diagnosed as tonsillitis, and he was barely able to go hunting that day.

The next day I went on to my farm, but returned to Oroville four days later, and

accompanied the doctor to see the two boys. Both were doing well, but, to my horror, I found that the brothers and sisters of the one who had had "tonsillitis" were down with a most malignant form of diphtheria; that one child had died during my absence of four days, a second one was nearing the dark vale, while, I might add, a third one died a few days later.

When I realized that this boy with the "tonsillitis" had been under an anesthesia-mask for about an hour and that then the same mask was used on the other boy, with dozens of people standing around all the while, I confidently expected an epidemic of diphtheria to break out; for there was not the slightest doubt that the "tonsillitis" boy was just recovering from diphtheria at the time of the accident. However, to my great surprise, and still greater relief, not a single case developed outside of this boy's own family.

Since that time I have had my doubts about the contagiousness of diseases from simple contact, without some other source of infection.

T. F. PARKER.

Marcus, Wash.

[We feel obliged to remind our contributor that one swallow does not make a summer. We have heard, and no doubt Doctor Parker has had experience, of cases of typhoid fever in which the patient, being convalescent, has surreptitiously regaled himself upon spare-ribs and sauerkraut, apparently without any injury to himself or any interruption to his recovery. But we presume that our contributor would hardly record this as an indication for spare-ribs and sauerkraut in typhoid fever. We should hesitate very much, upon the instance here cited, to entertain a general conclusion that diphtheria is incommunicable, far less to make a practice of using the same mask upon diphtheritic and healthy patients.—ED.]

APPENDICITIS: ANOTHER COMMENT

I have read Doctor Vioran's article, in the March issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE, on "The Medical Treatment of Appendicitis" and wish to record my comment on his system.

I have treated successfully a number of such cases with the starvation and elimination method. First, I give calomel, ipecac, and soda in small doses, repeated up to a total of 10 or 15 tablets, and combining with small doses of hyosecyamine if there is any pain.

An injection of epsom salt is given after the calomel tablets have been taken. As soon as the bowels are empty, I give sodium sulphocarbonate freely, and then apply over the abdomen hot lard well medicated with oil of turpentine.

Some prefer applications of ice; but I like the heat better, as a rule, although in strong, robust patients, with a sthenic form of the disease, ice works well. In the nonsuppurative cases, this treatment works wonderfully well. No food by mouth is given for several days, and then a very bland liquid food for as many more.

But always look out for perforations. I have been caught twice by the symptoms, all subsiding and the patient seemingly out of danger, when perforation took place and the patients died. One of these perforations was caused by an enterolith, without any pus forming, and the other by a gangrenous spot in the appendix. One was operated upon, but too late, while the other's parents refused to permit an operation. But a postmortem on the enterolith case demonstrated the condition as stated.

Echinacea and calcium sulphide should always be given whenever the temperature runs up and down rapidly (even when not high) and the pulse is higher than in normal ratio with the temperature. A high pulse that is small and wiry, with a temperature 99° to 101° F. is a sure indication of a sepsis and danger.

Always be ready to operate at a moment's notice when treating appendicitis medicinally.

THOMAS W. MUSGROVE.

Sultan, Wash.

[Appendicitis is treacherous. While we agree with Doctor Musgrove that most of these cases will get well under medical treatment, there is a devilish tendency on the part of the disease to recur. Hence, have a surgeon handy!—Ed.]

MERCURIC CHLORIDE REMOVES LICE AND KILLS THE NITS

In the January number of CLINICAL MEDICINE I find an editorial comment on some published articles on how to get rid of that school-pest, the head-louse, and the idea I got from that comment was that those written felt almost hopeless in regard to getting rid of the nits. Now my personal experience has not been very extended, however, I do not know ever having failed, either in dog or

child, in this respect when my instructions were correctly carried out.

I simply thoroughly soak the hair and scalp with an aqueous 1 : 1000 mercuric-chloride solution, and then, in the case of a human, order that it be combed as little as possible (to meet toilet requirements) and not brushed to all for several days, so that the chemical may not be removed. The idea is that as fast as the nits hatch out the young lice get a dose of bichloride and die before they can deposit fresh nits.

C. HERBERT CHURCH.

Newark, N. J.

[Corrosive sublimate is a dangerous thing to have around—even though every dame and damsel in these enlightened times seems to carry the tabs in her porte-toilette—and it is the lousy families who are the most careless. All considered, it does seem advisable that the doctor himself make the application, and then stipulate that the subject wear, day and night, a hood or else a bandage applied by him *lege artis*. Besides, he may, legitimately charge for this service.—Ed.]

VOMITING RELIEVED BY ANODYNE FOR INFANTS

I have gleaned very many helpful things from CLINICAL MEDICINE, but I want to tell you only of one of the numerous valuable hints I found in the April number.

I had been attending a young woman for four weeks, who could not move her head on her pillow without vomiting bile; she vomited from two to six times daily, and was exceedingly sick all that time. Although she passed large amount of bile in her stools, she received no relief from her sickness. I had tried everything I knew of to quiet her stomach, so that she could retain a little nourishment, but had utterly failed and my patient was getting weaker every day. Then I noticed in the April number an account of Dr. Shane (of Steubenville, Ohio) having stopped vomiting with anodyne for infants. I confess I did not have much faith in this remedy so far as my patient was concerned, but having some knowledge of Doctor Shane I concluded to try the little granules.

On April 15, I found my patient deadly sick and vomiting bile (with a red and dry tongue). I ordered two anydone for infants granules to be given every two hours. April 16, I found she had not vomited since I had given her the first dose. She still was sick, but not so bad. April 17: no vomiting,

slightly sick, tongue beginning to moisten; had taken a little weak chicken broth and retained it. April 20: no sickness, has not vomited since the first dose of the granules, has a desire for food; while weak, is improving nicely—thanks to the wonderful, but all-powerful anodyne for infants.

W. V. RIDDILE.

Burgettstown, Pa.

[The article by Doctor Shane, to which Doctor Riddile refers, was published in *Helpful Hints for the Busy Doctor*. It was extremely interesting.—ED.]

THE OPHTHALMO-AXONOMETER

Simple and comparatively meager as are the requirements of eye refraction, especially of the subjective chart-test, yet there are some conditions connected with it which make it rather discommodious for the general practitioner. For one thing, it necessitates a sheer uninterrupted line of vision between the patient and the wall-chart of 20 feet; or, if this cannot be obtained, then there must be a system of mirror reflection to take the place of the actual distance. Again, it is essential that the light fall brightly and evenly upon the chart; and if (as is frequently the case) the windows of the room are not conveniently arranged for this, then there must be some system of artificial lighting to fulfil the required conditions. And, finally, the procedure itself, the continual changing of lenses to and from the trial case and the trial frame is a cumbersome, annoying affair, exasperating to both the operator and the patient.

All of this difficulty and inconvenience is done away with, and the subjective test made very simple and easy, and at the same time just as scientific, by an excellent little instrument recently put on the market by the Standard Optical Company of Waupaca, Wisconsin, known as the Ophthalm-Axonometer. Its two-fold principle is the scaling down of the chart to a range of a few feet, still preserving the parallelism of the rays and the minimum visual angle, and the substitution of the focal length of the lens for the lens itself.

A cut of this instrument will be found on page 22 of the advertising department. A plus S lens at the telescope makes infinity at 12.5 cm., noted as zero on the slide-bar. A revolving chart is accurately scaled to conform to Snellen's visual angle at this distance. The slide-bar is graduated in focal distances, so that by sliding the chart forward or back-

ward, in accordance with these gradations, plus or minus correction is obtained of the dioptric strength indicated. By this device, the cumbersome changing of lenses is avoided; the scaling down of the distance makes the difference between clear and obscure vision very marked and prevents confusion; results register themselves automatically on the graduated slide-bar; and the whole instrument is, in fact, a trial case and wall-chart condensed within a small, handleable compass, and can be moved and placed wherever the light is favorable.

It really is the most scientifically simple device for refraction that the writer has ever seen, and reduces the art to the acme of simplicity and easiness. Now, more than ever, there is no excuse for the general practitioner failing to do his own refraction work. Any physician can learn to operate it in five or ten minutes; yet the writer absolutely vouches for its scientific accuracy. One can hardly make a mistake with it. It is especially rapid and effective in the case of children and neurotic adults, with whom the old trial case method is a source of despair. We earnestly recommend our readers to at least get the literature of this instrument, and become acquainted with it. They will make no mistake if they order the instrument itself forthwith.

THOMAS G. ATKINSON.

Chicago, Ill.

AS TO IPECAC AND STAPHISAGRIA

Lately I have seen in this journal articles about emetine being used in dysentery. That leads me to say that ipecacuanha is a far more valuable remedy than some think it is. I have used it in very small doses to quiet vomiting; adding of the "specific tincture" of ipecac 3 or 4 drops to a glass of water and giving of this a teaspoonful every half hour. It also gives good results in passive hemorrhages. Also, it is a fine expectorant.

For forty years I have been employing ipecac powder in dysentery, and always obtained good results. The late Dr. L. P. Yandell, Jr. was professor of materia medica in the University of Louisville forty-odd years ago, when I was a student at that school, and he taught us to prescribe ipecac in large doses—10 to 15 grains at a dose—in dysentery. The ipecac was made into a pill. The patient was not to drink any water for two hours before taking the pill, use as little water as possible in washing it down, and not to

drink anything for at least two or three hours after. The patient was to lie down.

Often this one pill will be the only dose needed for a cure, if the patient is seen early in the attack. Now I put the drug in capsules. However, I have also administered the ipecac in the form of rectal suppositories in treating this trouble. Ipecac always is the first thing I think of.

In the March number there appears an article on staphisagria. I will say that I have been prescribing this remedy for a number of years and like it very much. I use only the "specific tincture." This certainly is a fine remedy in certain nervous conditions, when the patient looks on the dark side of everything, having fear of impending danger. The dose is from 1-10 to 3 drops of the "specific." For example:

Sp. tr. of staphisagria gtt. 5 to 10
Water ozs. 4

Label: 1 dram every three or four hours.

Some years ago one of my patients had an intolerable itching of his legs and said his feet felt hot, and at night he would put them out from under the cover. I could not see any eruption or anything wrong with his legs or feet. On a venture, I gave him the following lotion, and it cured him of his trouble:

Sp. tr. of staphisagria dr. 1
Water, to make ozs. 4

Label: For external use only.

Shake well and apply with a sponge to the legs and feet three times a day.

JOHN E. L. HARBOLD.

La Grange, Ky.

Ipecac has been used in the treatment of dysentery for many years, and its value in tropical forms of the disease is unquestioned. But it often failed because it was impossible to get enough into the patient to control the disease without producing simply unendurable nausea and vomiting. Then it varied greatly in strength; one batch might be good, the next batch worthless. Emetine has replaced it because it causes little or no nausea, even when used in large doses (a grain of emetine equals 60 grains of ipecac), and because it can always be depended upon to give results. Now that emetine hydrochloride is available physicians practicing in tropical climates would no more think of giving ipecac to cure dysentery than they would attempt to give powdered cinchona bark to cure malaria.

Doctor Harbold's experience with staphisagria is most interesting. This remedy has practically gone out of use except as a local

application to the scalp to kill headlice. Like other neglected vegetable remedies we have no doubt that it has virtues as yet unrecognized.—ED.]

NOT FRAMBESIA, BUT LEPROSY

Having practiced medicine for more than eight years in the Samoan, or Navigator, Islands, where yaws (frambesia) is prevalent and leprosy is not a rarity, I feel myself fairly competent to pass judgment upon the case of skin disease discussed and illustrated recently in these columns (Jan., p. 90, and Mar., p. 273), and without requiring anything more than you have given as a guide.



Dr. Campbell's case of leprosy

This is unmistakably a case of leprosy. It has the general appearance of a number of cases I have had the privilege of observing. It does not appear like any of the cases of yaws I have seen, and they were many. While yaws may run a course of months or a year, as a rule it terminates in from six weeks to three months; depending upon the patient's general health and idiosyncrasy, the hygienic conditions, and treatment employed. Among the Samoans, I think, it was exceptional for the disease to last longer than three months.

The appearance of the eruption in the photograph is not that of yaws. At first a

yaw ("raspberry") usually is a furfuraceous patch, which after a few days becomes a papule. These papules seem to be pushed from the rete Malpighii up through the horny epidermis, which breaks over their apexes and splits in lines radiating from the center, the necrotic segments curling away from the enlarging papule. When the papules become about a millimeter in height and breadth, a yellow point may be observed in the center, which is found, not to be a drop of pus, but a naked, caseous-looking substance that can not be wiped away without much and undue force and leaving a bleeding surface. The papule may cease to grow at this stage of development or it may continue increasing in size to the formation of the typical yaw. The typical yaw may vary in size from a split pea to that of a 25-cent piece or even larger. Generally it is a rounded excrescence, with the top of the little tumor completely capped by the yellow caseous matter above referred to.

From the appearance of the photograph in question, I should judge that the eruption was nodular. If I am correct in my deductions, then this affection could not have been yaws, for it would have had the characteristic yellowish, caseous centers in some of these eruptions long before Doctor Campbell saw the girl, if she had had the malady for as long as a year.

F. E. BRAUCHT.

Coleridge, Neb.

[We print the picture again, to make Doctor Braucht's points clear. The case seemed to us to be one of leprosy, but full data are still lacking.—ED.]

DEATH CLAIMS TWO FRIENDS

Just as we go to press—too late, in fact, to insert this brief notice in our editorial pages—reports come to us of the death of two distinguished men and good friends of this journal.

Readers of CLINICAL MEDICINE, especially those who have been on its list many years, will join us in mourning the death of Horatio S. Brewer, of this city, who has frequently contributed experiences of great interest and more than ordinary value to its pages.

Doctor Brewer's special work for the past decade has been in epilepsy and allied conditions, which he was able to handle, in most instances, and in ways known only to himself, with surprising success. It is unfortunate that, so far as we know, he left no records for the profession.

Then from far-away Texas comes news of the death of Dr. F. E. Daniel, of "Red-Back" fame, who fell asleep at his home in Austin, May 14. We knew that Dr. Daniel had been ill for some months, but hardly expected to hear of his death so soon. Thus passes one of the most brilliant writers of the South—indeed, of American medical journalism.

HOW I TREAT UMBILICAL HERNIA IN INFANTS

Umbilical hernia in very young children is not a rare condition, by any means, and there is so much importance attached to this condition, as to the future welfare of the child, that I wonder why more attention has not been paid to this subject. The theory that "the child will outgrow" this trouble is farcical.

Whenever there is a typical tumor which becomes tense and large at every cry of the child, it is out of the question to assume that this condition will get well by itself. I have seen more than one case ready for the surgeon, neglected when they could have been remedied easily at first, that made me feel that some medical attendant had fallen far short of doing his duty to his little patient.

The following is my plan for treating this condition. I have not yet failed to relieve a single case in children under three years of age. It is much easier to treat a patient under two years, since the parts are more likely to adhere than where the tissues are more developed.

First of all, I clean the whole abdominal wall with soda and soap-water. After drying thoroughly, I dust the skin around the navel with equal parts of talcum powder (I prefer Mennen's toilet talcum) and compound stearate of zinc powder. I take a small quantity of clean absorbent cotton and put some of the powder over the cotton, roll the cotton into a tight wad, place the cotton roll immediately over the tumor, reducing the tumor, then grasp a fold of skin on either side of the tumor, anchor the strips well around from side to side, finally covering the tumor well by going over it with adhesive strips several times until I am certain that the parts will hold the "crease" good and tight.

I allow these strips to remain intact for two or three weeks. Sometimes the mother will tell you the strips are on too tight, but you can rest assured that no damage will be done the child from pressure. I remove the strips when they show signs of loosening and then reapply them.

The child should be kept perfectly quiet while the strips are being applied, as the tumor is forced out again at every effort of the child to cry. Usually I have the mother nurse the child or amuse it in some way until I can fasten the strips. I allow the second strapping to remain on about two or three weeks. Upon removing the strips the second time, I have always found the tumor gone. Then I direct a tight-fitting band worn for six weeks, to give further support to the parts.

Will some reader of the "family" who has tried this method let us hear from him. I hope this little sketch will be of some service to some brother who has had the same unsatisfactory experience that I have had with the "button" or "lead-bullet" plan of treating these cases.

JOSEPH W. GREGORY.

Cisco, Tex.

EMETINE IN AMEBIC DYSENTERY

Within the last four months I have had occasion to treat six dysentery patients with emetine hydrochloride, and I can report only gratifying results.

Two of these were hospital-cases; that is, they were patients in the Chakdighi Charitable Dispensary, where dysentery-cases are numerous. The other four were in private practice, all chronic in type, and these persons had been sick for two or three months. They were passing from twenty to thirty mucopurulent, bloody stools, looking like "intestinal scrapings," as it were; tenesmus and borborygni were present and there was dull pain all over the abdomen.

My course of treatment is as follows: Inject emetine hydrochloride, 1-2 grain hypodermically. Give a mixture of castor-oil (1 ounce) in six doses, one dose to be taken hourly to effect. Give calcium sulphide, twelve granules, and the following: Emetine hydrochloride (gr. 1-64) granules 3; echinacea, granules 1 or 2; strychnine arsenate granule 1-2 to 1; hydrastine, granule 1. Dispense 8 such doses, giving one dose every two hours.

Next day I find the patient better. He has passed a large amount of fetid stools; there is no gurgling; tenesmus less than before; blood still present; stools reduced to ten or twelve in number.

A second injection of 1 or 2 grains of emetine hydrochloride is given, as the people generally are poor and cannot afford to call me twice a day; and neither does the distance allow me to visit the patient twice. I have

to depend on other medicine to be taken by mouth, and I have found it to play its parts satisfactorily.

On the third day the stools reduced to three or four in number; no griping; no gurgling; no blood in the stools; a tint of bile has become visible in the feces.

No more visits are wanted, as the folk think they are safe; but the combination of emetine, echinacea, strychnine and hydrastine is continued for four or five days, and calcium sulphide, 20 granules in a day. Some patients say: "Your gray granules, though abominable to take, relieve the bowels much and make the actions easy—allaying the tenesmus."

Thus I use 1 1-2 grains of emetine hypodermically, and in one case only 1 grain; besides, about 3 or 4 grains of emetine by the month, usually along with echinacea and calcium sulphide, the latter acting as a systemic antiseptic, checking the fever, and helping in effecting a rapid cure. Relapses have not occurred thus far.

As for my two hospital cases, I had a fair chance of injecting the emetine hydrochloride. One of these required 4 grains, and the other, 4 1-3 grains, for a cure. They were discharged after fifteen and eighteen days, respectively.

In the preemetine days I treated 127 cases with ipecac—15 grains, three doses daily. After a preliminary dose of opium or chloral, they can well bear the dose without emesis; indicating how nature tries to get the beneficial effect of the drug by exhibiting a peculiar tolerance in these cases. Ipecac promotes the flow of bile and stimulates healthy intestinal secretions.

That a peculiar tolerance for ipecac is established in amebic dysentery, can be understood, if one observes that these patients generally do not vomit, even when 10 or 15 grains of powdered ipecac is given in divided doses without a preliminary opium dose; whereas 1-2 grain suffices in health to cause nausea; and, furthermore, that those in whom nausea and vomiting is present recover soon. This proves that the Almighty Savior has created the drug for that fell disease.

N. CHATTERJEE.

Chakdighi, Dt. Burdwan, India.

THE AMERICAN MEDICAL EDITORS' ASSOCIATION

On June 22, the above-mentioned association will meet at the Marlborough-Blenheim Hotel, Atlantic City, N. J., under the presi-

clency of Dr. E. A. VanderVeer of Albany, N. Y. An unusually attractive program is being prepared. Among the papers are the following:

President's address: E. A. VanderVeer, M. D., Albany, N. Y.

"Relation of the Medical Press to the Cancer Problem," by Mr. Fred'k C. Hoffman, statistician of the Prudential Insurance Company. (By invitation).

"The Preparation of the Original Article and the Editor's Latitude," by E. Franklin Smith, M. D., Brooklyn, New York.

"The Ideal National Medical Journal: What it Should Be and What It Should Not Be," by W. J. Robinson, M. D., New York.

"Two Problems of the Organization Journal: The Mediocre Paper and the Editorial Department," by Sarah M. Hobson, M. D., Chicago, Ill.

"Medical Journalism as a Local and as a National Proposition," by Thomas S. Blair, M. D., Harrisburg, Pa.

"Medical Books and Journals," by T. D. Crothers, M. D., Hartford, Conn.

"The Medical Periodical and The Scientific Society," by F. H. Garrison, M. D., Washington, D. C.

"Editorial Experiences," by A. L. Benedict, M. D., Buffalo, N. Y.

"The Special Medical Journal," by A. Bassler, M. D., New York.

"The Medical Profession and Its Influence from a Buying Standpoint," by Joseph MacDonald, Jr., M. D., New York.

AMERICAN MEDICAL ASSOCIATION MEETING

This year the American Medical Association meets at Atlantic City, June 22-26. The CLINICAL MEDICINE "bunch" will go by way of the Pennsylvania, and shall be glad to have any of you join us. Let us know what you want and when you want it and we shall be glad to make any necessary arrangements for you in advance, or if you prefer, you can write to Mr. C. D. Elliott, General Passenger Agent, of the Pennsylvania Railroad, Chicago.

HOMEOPATHY: WHAT IT REALLY IS

In your May number, C. N. Miller breaks out in a wonderful demonstration of what the 30th dilution of a homeopathic remedy really *is not*. The Doctor evidently has not grasped the homeopathic idea as yet, for he appears to think it is the size of the dose that determines it, when this has nothing whatever to do with the homeopathic law of cure.

Hahneman tells us that remedies are not "diluted," but "attenuated" or dynamized; that is to say, by the process of succussion each dilution as it is made, the dynamic force of the drug is liberated, and that without the rapid and thorough succussion (shaking) of the solution the mere process of diluting does not operate to develop, or liberate the dynamic or curative, action of the remedy.

Take, for instance, the well-known drug belladonna. Physicians of the regular school prescribe it largely for its anodyne excitomotor action and its ability to control secretions and antispasmodic effects. Now, these conditions are controlled by the physiological action of belladonna, and the Homeopath prescribes this remedy in small doses to relieve symptoms which correspond to the picture produced by belladonna in a poisonous dose—that is, violent cerebral congestion, with or without delirium, in acute inflammations of an active type (like the Sydenham type of scarlet-fever). But these symptoms must be from causes other than the presence of this drug or its correlatives hyoscyamus, stramonium, and so on. The dose given for relief must be too minute to produce physiological effects.

I will put before the doctor a mathematical problem in low attenuations in Homeopathic law relative to dosage.

Take a piece of charcoal one inch cube. If you were to place this lump in the stomach, you would have six square inches of surface exposed to the action of the gastric juices. Now divide this cube into three plaques 1-3 inch thick, and you would have 68 square inches of surface—and this would represent the 4x trituration. Now, Doctor, wouldn't you get as much result from each of the three of these thin plaques as you would from the 1-inch cube. Further, if you triturate this charcoal with sugar of milk, you not only have its absorptive effects on the gases of the stomach, but you develop a dynamic effect that removes the systemic causes of digestive and intestinal putrefaction, with the whole train of symptoms that goes with it.

Once more, Doctor, use your common sense and look about you. If there were nothing in the Homeopathic law of cure, could it have thrived and grown and today have 50,000 physicians and half a million adherents, with state universities teaching its truths, hospitals, societies, county, state and national? Get a copy of the "Organon," Doctor, and study it. It will do you good.

W. N. FOWLER.

Kalamazoo, Mich.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

I HAVE just received an unsigned letter reproaching me for quoting from the writings of the late Dr. I. N. Love, of St. Louis and New York, without giving him credit. My anonymous correspondent writes me that a portion of my article on hysteria, in the May number of this journal, was taken from an address delivered by Doctor Love at a banquet of druggists some years ago.

The portion referred to is probably the first part down to the short black line near the foot of the first column. Someone else also quoted from Doctor Love, for I took this portion in its entirety from an unsigned newspaper or magazine clipping which I had pasted in my scrapbook some years ago. For years I have been in the habit of collecting both prose and poetry that appeal to me, from newspapers, magazines, and other sources and pasting them under appropriate headings in a scrapbook.

This matter referred to, my correspondent writes me, should be credited to my old friend I. N. Love. This I most cheerfully do, and I wish my correspondent would send me a copy of this address of Doctor Love's, if he has one, that I may reproduce it in its entirety; for it would be worth reading, as was everything Love ever wrote. In this connection, I would suggest to my unknown correspondent that, if he has the full series of *The Medical Mirror* when it was edited by Doctor Love, to arrange with some publisher to reproduce his editorials and literary essays; they would sell and be highly appreciated by the present generation. I have but one number of *The Medical Mirror* that for September, 1899, from which I quote further down some of Love's stuff. Otherwise, I have but one other article of Love's, and that is, "The Rights of Old Age." This I hope to republish in these columns some time.

My correspondent intimates that I am fond of quoting from Doctor Love's writings. I am, and I presume I have used many of his ideas, if not his exact words. His style was

remarkable; he was epigrammatic. I have used one expression many times, and I have seen it in the writings of others, and always without the "pestiferous quotation mark." The first time I ever heard the phrase was in a little "round-table talk," when Love used it, and it was this: "Eat less, and play more; indulge in less fret and fume, and in more fruit and fun." And we certainly were indulging at that time in some "fun" and some "fruit of the vine." I have used on stag occasions a certain toast—and have heard it used by others—that I first heard from the lips of Doctor Love. Both of these probably were original with him.

No man who ever was intimately acquainted with Doctor Love or who was familiar with his writings could help being impressed with his personality and saturated with his thought. I am sure that no physician whom I ever have known has impressed himself so indelibly upon the hearts and minds of his confreres as has Love.

I know that I have quoted from Love, as many others have, and as he himself paraphrased or quoted good stuff that appealed to him. He and Elbert Hubbard were much alike in this respect. They could put the "punch" into Shakespeare even, or into any of the classics, and make one forget the original writer. But Love not only could put the punch into another man's stuff, but he was peculiarly original, and it is no wonder that what Love wrote and said is being remembered and quoted.

Emerson ranks as the quoter of good things next to the originator of them. After all, who among us is wholly original? Doubtless many readers of this department often have recognized some rare gems, such as those from Love, George Thos. Palmer, Thomas G. Atkinson, William J. Robinson, G. Frank Lydston, E. S. Goodhue, A. S. Burdick, George M. Gould, and the many others, good doctors all, who, as old friends, have flashed back smiles of recognition.

Dr. I. N. Love was one of my best friends, and I am delighted to know that my anonymous correspondent was his friend also and is so loyal to his memory. I hope that he will give me his name and address and that we may meet and pay tribute to the memory of our old friend Love.

And to you readers of this department I will say now, that, if you have ever read anything here that has soothed, strengthened or inspired you; flashes of sentiment, humor or philosophy that have pleased you; give the credit to those whose writings have influenced my thought and molded my style; and to no one man in my own profession am I more indebted than to my old friend Dr. I. N. Love.

I hope that my anonymous correspondent will read this, and, whoever he be, I thank him for writing me. His loyalty to his friend shames me; for I, too, was his friend, and I shall make it a point to resurrect some of the brilliant things written by Love, and reproduce them with comments.

I should be pleased if any of my readers would send me anything of Love's; any anecdotes, bits of history or personal experiences; for nothing would please his friends better than for someone to reproduce some of his stuff that was so deservedly popular in the days gone by, to pay tribute to the memory of such a rare and genial personality.

It wouldn't be a bad idea to make a few "little journeys" to the homes of such men as Love, who have passed on, reproducing some of their best writings and telling the present generation of their work and something of them as men, as well as doctors. Let us start with Dr. Isaac Newton Love.

Love was not only a great physician and teacher, but a genial, kind-hearted philosopher. He had his troubles, as we all have, and more than he deserved; but, when the clouds were thickest, when envious competitors slandered him, instead of getting bitter and misanthropic, he would write something in the strain like that which follows, and to which I have referred above; and he would feel better after having done so—and so would every one who read his stuff. When you are inclined to give up and quit, and to cry out, "What's the use?" read this of Love's:

"What's the use? Time was when no manly man could afford to brook an insult. If prompt resentment did not follow, he was

prompt to receive the evidence of the contempt of his fellows.

Fortunately the education and moral development of our people has resulted in the growth of a healthy sentiment, which has crystallized into law that is almost universal against the cruel relic of barbarism, the code duello.

There can be no question that in communities where the code duello obtains men, knowing that they will be held to a strict accountability for their words and deeds, exercise a greater care regarding the same, and one could almost wish that in all matters where name and character are involved it should be made to apply. The present reckless manner in which men of supposed good blood and breeding are permitted to dally with the names, in a gossiping way, of good and true people is deplorable, and some check should be placed upon the same.

After all, however, Time, the great leveler, makes all things right; the really worthy cannot be injured by the tongue of slander, and its victims may well feel that life is too short to justify worrying over gad-flies.

The manly man who has any sense at all knows that a real gentle, gently born man will not injure or insult his fellow, and no other can. On a sudden impulse, face to face with his injurer and traducer, the injured one may be pardoned for prompt resentment, but when the conditions are favorable to calm second thought judicious kindly action should follow. Let us keep in mind the sentiment that "he that is the ruler of his own spirit is greater than he that taketh a city."

Indeed, the man who insults and attacks you as a rule is too far beneath you to be noticed. He is probably the victim of ill-breeding, unhappy associations, unbridled passions, drink, drugs or disease and as such should command your sympathy.

In your busy round of work, with your body and soul almost breaking under the weight of burdens, you may be bitten by the burly bull-dog or the sneaking cur, and your natural impulse may be to kill the dog as a possible mad dog. But, no, don't do it. If he's mad, he'll die anyway promptly; and, if he's not, the poor brute should be forgiven, for he bit only because he's built that way. In either event, dress your wounds and be more careful of your future movements, and avoid dogs.

Even though you fall a victim to real-estate sharks, grain-gamblers, ingrate employees, alleged friends (whose ideas of friend-

ship are, to work their friends, rather than to work for them; to *do* than, rather than to do for them), and perchance a kick from the hoof of the learned pedantic pedagogic, pale-gray ass who edits *The Philadelphia Journal of Hypocrisy*, don't mind, but go on sawing wood on your own wood pile and use the sawdust for sprinkling the slippery places which encompass you, that you and others may not fall and, figuratively speaking, break your bones and bruise your flesh.

You may have had an experience like one of two Irishmen engaged in railroad building who disturbed a pile of railroad-ties and interrupted a representative of the genus *mephitis americanus*, vulgarly known as the skunk. Said Mike, "Pat, what's the cat been atin?" Said Pat, "Cat, that was no cat." "What was it?" said Mike. "A skunk," says Pat. "Be Jasus, and what did he do to me?" said Mike. "Pest on you, shure!" says Pat. "Indade, 'twas a God's mercy thin he didn't do the other," says Mike.

And, so, if disturbed by a skunk, the only thing to do is to thank your stars it's no worse, and give it in return absolute avoidance and silence or a shotgun; but then ammunition is wasted on such poor game, and avoidance and silence are better.

No!—No! No! Let us not burden our time with trifles and our souls with grievances. We are, every one of us, good, bad, and indifferent in our daily journey, walking with steady or unsteady step directly toward an open grave—and why worry and fret over any thing? What is the laurel-wreath of fame, but a shadow? What is wealth but a bubble? Let us do our duty—the right, as God gives us to see the right—with malice towards none, with charity for all.

W. W. Denslow, the *Philistine* artist, some years ago evolved an etching which puts my ideas in a nutshell. I have hung an "artist proof" of the same directly over my writing-table in my sanctum, and whenever wearied, worn or worried, I let it catch my eye, and my soul becomes as blightly calm and placid as the sweetly shining surface of the sunlit sea.

"What's the use?" Yes, what's the use of noticing annoyances, the shafts of envy and jealousy, the injustice of false friends or the attacks of enemies, be they ever so aggressive; for, ere long every enemy and false friend will be in his coffin behind the hearse-horse, or else you will. In either case, you will, all,

be in a position to grasp the correctness of Bliss Carman's screed in "More Songs From Vagabondia:"

Said the hearse-horse to the coffin:
"What the devil have you there?
I may trot from court to square,
Yet it neither swears nor groans,
When I jolt it over stones."
Said the coffin to the hearse-horse:
"Bones."

Said the hearse-horse to the coffin:
"What the devil have you there?
With that purple frozen stare?
Where the devil has it been,
To get that shadow grin?"
Said the coffin to the hearse-horse:
"Skin."

Said the hearse-horse to the coffin:
"What the devil have you there?
It has fingers, it has hair;
Yet, it neither kicks nor squirms
At the undertaker's terms."
Said the coffin to the hearse-horse:
"Worms."

Go on from day to day and take your medicine, be it ever so bitter; indulge neither in "swears nor groans," bear your burdens bravely, and, if an extra heavy one is thrown upon you, "*grin and bear it*" and make no "*kicks nor squirms*"—remember that it is better to be a burden bearer than a burden. Be happy in making others happy. Do all the good you can to as many people as you can, as often as ever you can. Live temperate lives in thought, word, and deed, and leave all else to God. Above all: don't worry, don't hurry, don't judge—what's the use?"

MY DAY

The night drops down his dark and sombre curtain,
The stage is set for some new acted play;
Why do I linger, tarrying uncertain?
Have I not lived my day?

A day made merry with good wine and laughter,
Were not the viands rare, the garlands gay?
What should I care if no encore comes after?
Have I not lived my day?

The crowd looked on and watched a puppet speaking,
Yet never knew he watched as well as they;
They could not hear, because the ropes were creaking,
That moved behind the play.

The curtain drops, and I am done with feigning,
I toss my sceptered impotence away;
No curtain-call, yet there is no complaining,
For I have lived my day.

Willard A. Wattles, in *Harper's Weekly*.

Among the Books

PITFIELD: "BACTERIOLOGY AND PARASITOLOGY"

A Compend of Bacteriology: Including Animal Parasites. By Robert L. Pitfield, M. D., pathologist to the Germantown Hospital, Philadelphia. Second edition. New York: P. Blakiston's Son & Co. 1913. Price \$1.00.

This little book belongs to the Blakiston Quiz-Compend series, of whose merits and demerits we have spoken more than once in these pages. The only possible legitimate value we can accord them is for purposes of review by the student or practitioner in subjects with which he already has made himself familiar through the larger textbooks. When used in this way by the student, these compends should be under the supervision of a teacher, merely as a guide; and thus employed, we believe they fill a useful place in the minor literature of medicine.

This particular compend is a very good epitome of the subject of which it treats. And, it may be added, bacteriology is a subject which lends itself better than most others to epitomization and tabulation. It really transcends its title role and goes briefly into the matter of vaccines and bacterins and their preparation, which is an excellent extension of bacteriology into practical spheres. The illustrations are very good indeed for a book of this kind. Altogether, we can recommend it as a practical, well-digested presentation of modern bacteriology and vaccine therapy within the limitations indicated.

FORTESCUE: "MEDICAL HYDROLOGY"

Principles and Practice of Medical Hydrology: The Science of Treatment by Water and Baths. By R. Fortescue Fox, M. D., F. R. M. S. London: The University of London Press. 1913. Price \$2.00.

In this modest volume, the author has assembled and blended into coherent book form the subject-matter of various lectures which he has from time to time delivered upon the topic of hydrology, especially of the Hyde lectures delivered before the Royal Society of Medicine of London.

Books constituted in this fashion have their advantages, but also their disadvantages. They always possess a certain quality of freshness and informal discussion of the subject in question, which is both vitalizing and suggestive; they represent, in fact, science in the making, progress in the flux. On the other hand, they never display that niceness of discrimination and certainty of decision that characterize the more formal textbook, factors that go so far toward investing a book with convincingsness and practical value.

Both sides of the shield are well exemplified in this book of Doctor Fox's. It must be confessed that it impresses one as an interesting and instructive résumé of the subject of hydrology, rather than a practical guidebook for the clinical procedure. Perhaps, however, that is what hydrotherapy most stands in need of just at this particular time. Regarded from this point of view, it is an excellent piece of work, comprehensive, sober, sensible, illuminating. There is one very timely chapter on the question of nomenclature—a phase of the subject which undoubtedly calls for clarification. Altogether, the book—although, as we have said, it is not of the most practical nature—unquestionably fills a real place in the literature of hydrology.

LIPPINCOTT'S "INTERNATIONAL CLINICS"

International Clinics. Edited by Henry W. Cattell, A. M., M. D. Volumes III and IV, twenty-third series. 1913. Philadelphia and London: The J. B. Lippincott Company. Price, per volume, \$2.00.

Both of the volumes before us are full, as the preceding ones of these series usually have been, of the most interesting and valuable reading. Perhaps we may be pardoned for picking out a few of the articles that impress us as especially good. Thus, William Seaman Bainbridge has a very timely and instructive paper, in the third volume, on the use of physical agents in the treatment of cancer and its allied conditions. These agents include Doyen's electrocoagulation, De Keating-Hart's fulguration, and the latter's thermoradiotherapy. All three of these recent modes

of treatment are very thoroughly discussed and illustrated by clinical examples. In the same volume, there is an excellent article on the treatment of pneumonia, by Norman B. Gwyn.

In volume four, we should be disposed to designate the two articles upon eugenics, by Paul E. Bowers and Carl Wettstein, respectively, as the *pièces de resistance*. The entire contents of both volumes, however, are good nourishing food, both for thought and for action.

SWANBERG: "THE INTERVERTEBRAL FORAMEN"

The Intervertebral Foramen: An Atlas and Histologic Description. By Harold Swanberg; with an Introductory Note by Harris E. Santee. With 16 original full-page plates. The Chicago Scientific Publishing Company 1913. Price \$3.00.

An excellently performed piece of work in special anatomy, one that will delight the eye and heart of every enthusiastic neurologist and comparative anatomist. No doubt it will also serve a useful purpose in the instruction of students in neural anatomy. We cannot conceive (and probably the author does not expect) that it will find much of a sale among the rank and file of the profession. Its circulation will be limited to the few who are especially interested in studying or teaching minute neural anatomy. Perhaps, by the way, that is the reason for the somewhat extravagant price put on the book, which contains only a round hundred of pages. However, as Doctor Santee says in his introduction, "accurate information is always valuable, and it is such that Mr. Swanberg presents."

MACKENZIE: "DISEASES OF THE HEART"

Diseases of the Heart: By James Mackenzie, M. D., F. R. C. P., physician to the London Hospital. Third edition. London: Henry Frowde, Oxford University Press, 1913. Price \$5.50.

If there is any man living who knows more or who writes better concerning the heart than Mackenzie, we have yet to make his acquaintance. The work now under review has established for itself a place in medical literature as a classic. Not exactly an archive, since that term hardly can be applied to a work that is undergoing constant revision

and evolution—and, happily, we still have the distinguished author with us, giving this dynamic quality to his book—yet, unquestionably it will, eventually, pass into the permanent archives of medicine.

According to Mackenzie, advances in the knowledge of the heart during the past few years have been mainly along three lines: first, the clearer differentiation of the signs of disease, to which the electro-cardiogram has greatly contributed; second, the bearing of heart manifestations upon heart failure; and, third, the basing of treatment upon sound, scientific principles. These three aspects of advancement are fully reflected in the new edition of his book. Indeed, it may be said, that the author himself has been largely responsible for a great part of the advance process.

In this connection, we cannot refrain from expressing our approval of the practice adopted here of epitomizing the contents of each chapter at the head of the chapter. There is a splendid appendix, containing a wealth of clinical illustrations.

SCHMIDT: "MALIGNANT TUMORS OF THE ABDOMEN"

Diagnosis of the Malignant Tumors of the Abdominal Viscera: By Professor Rudolph Schmidt, professor of medicine in the University of Innsbruck. Translated by Joseph Burke, Sc. D., M. D., Buffalo, N. Y. New York: The Rebman Company, 1913. Price \$4.00.

Both the translator and the publishers have put us under a great debt of gratitude in providing an authorized English version of this valuable monograph of the great German internist. Those of our readers who were fortunate to obtain and peruse a copy of the translation of the same author's treatise on Pain, which appeared in this country some years ago, will confidently expect to find in this work on abdominal tumors something far transcending the customary cut and dried treatment of the subject; and they will not be disappointed. A more thorough exposition of the pathology and symptomatology and the significance of malignant tumors, from every imaginable aspect—from the biologic to the clinical—it would be difficult to cite.

The enormous experience which Professor Schmidt's position has brought to him and the keenness of vision he has brought to bear upon that experience have enabled him to set before us a veritable treasure-box of information and

suggestion, such as one hardly can believe to have emanated from the store-house of one individual man.

The first part of the book is devoted to a treatise upon the subject of tumors; the second part is filled with well-digested clinical reports, amply and clearly exemplifying the conclusions of the first. Never was a better money's worth than that which Rebman's are offering in this splendid volume.

HARTMAN AND BRADLEY: "BOOK OF HEALTH"

First Book of Health: A Textbook for Pupils of the Lower Grades. By Carl Hartman, M. A.; and Lewis Bradley Bibb, M. D. With 122 illustrations. The World Book Company, Yonkers, N. Y. 1913. Price 35 cents.

Far and away the most sensible, breezy little hook for the youngsters on this subject that we ever have seen. The whole matter is treated in a delightfully common-sense fashion and the style of the author is clear, simple, even fascinating. The tone of the book throughout is optimistic and persuasive. We are sure that it will make an excellent handbook for the teaching of health and hygiene in the public schools, and we can imagine that, with such a text, the children will look eagerly forward to the lesson. We should indeed be glad to see it adopted in every school in the country, and do earnestly hope that every one of our readers will get a copy of it at once and put it in the hands of some youthful acquaintance. We are confident that the book only to be seen has to be appreciated and widely circulated, as it deserves.

TULEY: "DISEASES OF CHILDREN"

Diseases of Children: By Henry Enos Tuley, M. D., late professor of obstetrics, University of Louisville Medical Department. With 106 engravings and 3 colored plates. Second edition, revised. Saint Louis: The C. V. Mosby Company. 1913. Price \$5.50.

It is rather misleading to label this as a revised edition of the same author's previous book on the diseases of children. The fact is, it is an entirely new book, written, apparently, without any reference to the former one; and, if the author and publishers will pardon the suggestion, it would better have been put out upon its own distinctive identity, without attempting to establish any family relationship with the other book at all. Really, it is just as different from the former

book as day is different from night—and just as superior. Indeed, the Mosby Company may reckon it as being deservedly among its "feature" publications.

Of course, the work is not perfect—perfect books do not grow on hedgerows—nevertheless, it comes just about as near to fulfilling our own personal idea of what a textbook on pediatrics for the general practitioner ought to be as anything we have seen, at all events on this side of the Atlantic. Especially must we congratulate the author upon his sensible and rational treatment of the subjects of infant feeding and infantile intestinal infections, respectively. Indeed, so far as we are able to see, the whole subject-matter is modern and in accordance with the scientific concepts of the present day.

These things being so, it is a pity that so many—and in some instances such serious—misprints should have been allowed to creep into the text. But they are such palpable misprints that we judge they will deceive nobody; and no doubt they will be corrected in the next edition.

MAKINS: "SURGERY IN SOUTH AFRICA"

Surgical Experiences in South Africa, 1899–1900: Mainly a Study of the Effects of Injuries With Small-Calibre Bullets. By George Henry Makins, C. B., F. R. C. S. Second Edition. London: Henry Frowde. 1913. Price \$3.75.

The Oxford Press has produced, in this volume, a work most interesting from several standpoints. First and foremost, it has a distinctively scientific and technical interest to military surgery and surgeons, since it contains some invaluable information, gathered by competent observers on the very field of battle and in the midst of a campaign, concerning the effects of a certain type of bullets. Second, its historical and biographical flavor gives it a decided smack of interest to the litterateur who is fond of this sort of writing; and in this role, too, the book possesses a high value. Finally, the book has a still broader range of interest, in that it contributes to the large problem of national economics, as exemplified in the cost and consequences of war under given conditions.

To the medical man, of course, the first of these factors of interest will be the strongest correlatively, it cannot well be expected to make any very wide appeal to the general practitioner. To the physician who is in the service, or who is likely at any time to see active service Makin's "Surgery" should be

invaluable. Its principal circulation doubtless will be among surgeons of the line and of those of our National Guards.

BERNSTEIN: "APPLIED PATHOLOGY"

Applied Pathology: Being a Guide to the Application of Modern Pathological Methods to Diagnosis and Treatment. By Julius M. Bernstein, M. B., D. P. II. Illustrated with 5 colored plates and 46 drawings. London: University of London Press. 1913. Price \$3.75.

Doctor Bernstein has done something of the same sort for pathology that Treves years ago did for anatomy. Treves furnished the connecting link between descriptive anatomy and surgical practice; Bernstein here furnishes a similar link between the science of pathology and the practice of medicine. It is a timely work.

It may well be admitted here that, as a rule, the general practitioner knows more with his head about the fruits of modern research and ingenuity than he practices with his hands: that is to say, his acquaintance with the value of certain diagnostic and therapeutic measures, and his appreciation of the same is considerably in advance of his familiarity with the practical execution of those measures.

Books of the character of this one by Bernstein are sorely needed to bridge the awkward gap. Bernstein has taken of the mass of pathological knowledge—such of it as is usable—and has cast it into bullets with which to load the guns of the man on the firing-line. We recommend that every man on the firing-line will procure a copy of this work.

THOMSON AND MILES: "MANUAL OF SURGERY"

Manual of Surgery: By Alexis Thomson, professor of surgery, University of Edinburgh; and Alexander Miles, Surgeon, Edinburgh Royal Infirmary. Volume III. Second edition. With 255 illustrations. London: Henry Frowde. Price \$3.50.

This little series of books belongs to a class that is peculiarly popular, and correspondingly prevalent, in English medical literature. We always have looked upon them as most excellent things, covering the entire subject of which they treat as they do, in a concise, summary fashion for the clinical use of the general practitioner. They constitute a

style that might profitably be followed in this country, especially in the field of surgery, not in the place of, but in addition to the large and exhaustive works on the various surgical specialties, and the equally voluminous encyclopedic "systems" with which Americans surgical literature is burdened.

The essential thing about the book under review is that it is comprehensive and practical, furnishing the general practitioner with real help and enabling him to do his own surgical work, instead of exploiting elaborate surgical specialties and specialists; and it is adequate to all his ordinary needs. The present volume, as its subtitle indicates, deals wholly with operative surgery. The illustrations are splendidly done.

TALBOT: "GINGIVITIS AND PYORRHOEA"

Interstitial Gingivitis and Pyorrhoea Alveolaris: By Eugene S. Talbot, M. S., D. D. S., M. D. With 102 illustrations. Toledo, Ohio: The Ransom and Randolph Company. 1913.

Interstitial gingivitis is the bugbear of the dentist. Up to the present time, as Doctor Talbot points out in his preface, it has been persistently taught that his disease of the gums and alveolar processes is of a pyorrheic, or infectious origin; and virtually all experiments and treatments have been made upon this basis. But, there is one notable exception—the author of this book.

For the last thirty-five years Talbot has been contending that the prime morbid element in gingivitis is a metabolic disturbance from within that registers itself in the alveolar process as an end-organ, and that the bacterial infection is a secondary, an incidental, one might almost say accidental, denouement, which may or may not come about later in the disease-process. During all these years Doctor Talbot has been working out his theory by means of actual research and experimentation; and with every year his mass of data and evidence has accumulated, until it now would seem to be irresistible and it begins to look as though the dental and medical professions would have to reform radically their ideas on this subject.

The book under review may be said to be a summarized presentation of the author's findings, and it constitutes, indeed, a powerful brief for his own position. However, it is, much more than this. This volume constitutes a practical, clinical exposition of the subject of gingivitis, including treatment, for the use of the practitioner.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6005.—“Wanted: The Best Remedy for Tuberculosis.” H. W. H., Michigan, writes us, asking: “Have you a serum for tuberculosis? If not, what is the best remedy?”

Now, doctor, before we can venture an answer, we must request you to give us a clear idea of what conditions you have to contend with in any particular case. With such information, we may be able to offer some definite therapeutic suggestions. For, you must understand, medication, to be at all effective, must be modified to meet individual requirements.

As to tuberculin, although undoubtedly effective when properly given, it must not be administered in the acute or more advanced cases, or where the temperature remains steadily high—above 100 degrees. In all mixed infections and most of the chronic cases that we have to deal with, tuberculin is useless; however, appropriate stock bacterins, or, better, autogenous ones, may be expected to produce desirable results. In cases of secondary infection, already established, an autogenous bacterin will rapidly reduce fever, cough, night sweats, and so on, and enable the patient better to overcome the tuberculous infection.

QUERY 6006.—“Seborrhea of the Scalp.” R. R. S., Missouri, writes: “Tell me what to do for a bad case of seborrhea in a girl who has an extra-heavy head of hair. Her scalp seems to be very dry, the scaly condition in places extending beyond the edge of the hair.”

Always in seborrhea, local and systemic treatment should be instituted conjointly, the latter of course being based upon the condition of the body-chemistry, which first must be definitely ascertained. Hence, we suggest that you examine the patient's urine carefully, or, otherwise, forward a specimen

to our pathologist. In the meantime, these measures may be adopted:

Wash the head with a good tar-soap or carbenzol soap, massaging the scalp with the suds thoroughly; then rinse with clean warm water. When the hair is dry, or nearly so, brush the scalp with a 1 : 1000 solution of mercury bichloride. The next morning rub in unguentum aluminis, phenoli et ichthyoli cum resina. If for any reason your patient objects to the use of an ointment, try this lotion: Vinegar of cantharides, 1-2 grain; mercury bichloride, 1 grain; spirit of camphor, 3 drops; water, 1 ounce.

By way of internal treatment, the pill cascara compound (Hinkle) may be taken at bedtime. Besides, prescribe granules consisting of washed sulphur, gr. 1-32; strychnine arsenate, gr. 1-128; podophyllin, gr. 1-64; collinsonoid, gr. 1-128; berberine, gr. 1-128; one or two of these to be taken after meals. In some instances, the triple arsenates with nuclein may be substituted, with advantage.

QUERY 6007.—“Nervous Eructation.” P.S., Iowa, forwards urine for microscopical examination, the amount being, at times normal, at other times excessive. The patient is very nervous and has been troubled with acute constipation for years. An enormous amount of gas, forming in the stomach, is eructated, the patient expresses fear that her “heart will eventually be blown up.” No regulation of diet influences or relieves in any degree the enormous eructations. Cancer or ulcer of stomach has been suspected, but after careful research the Mayo brothers eliminated both. Their diagnosis was, nervous indigestion.

Physical examination shows adventitious heart-sounds; lungs are fairly normal, bronchial harshness in breathing; stomach is enlarged, as also is the liver. The patient is

emaciated, although this seems to be a characteristic of the family; in proportion to height, she is very much under weight; face, cachectic; skin, very dry and parchment-like; tongue, red. Our correspondent suspects intestinal stricture "somewhere," basing his opinion on the fact that even prolonged abstinence from food does not reduce the belching.

The report, of the pathologist, upon the urine reveals serious renal involvement (parenchymatous nephritis); hence, it would seem that this woman is in a more serious condition than the eminent Rochester surgeons have suspected.

Nervous belching (eructatio nervosa) is observed in hysteric women and neurasthenics, belching occurring at short intervals and being entirely independent of the character or amount of food ingested. The belching is noisy, as a rule, and may continue for a considerable period or occur in paroxysms.

The gas consists of atmospheric air "swallowed," or aspirated, into the stomach. In certain conditions, the stomach may act as an elastic sac and aspirate air without any effort at swallowing. Some of the air probably comes from the esophagus and has been swallowed previous to the act of belching. The belching may also be associated with acute or chronic gastritis or with fermentative processes in the stomach. Bear in mind that in fermentative processes the gas often is malodorous. A careful study of symptoms, gastric analysis, and the fermentation test enable us to make a definite diagnosis. So, under the circumstances, we should be inclined to give a Boas or Ewald test breakfast and have the stomach contents examined.

There are various nervous affections of the stomach. Such gastric disturbances have frequently a reflex origin, depending upon disease in remote parts of the body, and occur most frequently in women from puberty to the menopause; quite frequently at the latter period. Unfortunately, doctor, you do not state the age of your patient or give us any idea of her temperament, surroundings, and so on.

You are, of course, familiar with the symptomatology of neurasthenia gastrica. The patient usually complains of a feeling of "fulness" after eating; there is mental depression; the quantity and quality of the food makes little difference in the symptoms. Occasionally, the most indigestible material can be eaten with impunity; again, the most digestible food may produce symptoms.

Not infrequently pain or discomfort and belching occur when the stomach is empty. Nausea or vomiting may be present.

Further, the intestines are tense upon the accumulation of gas (voided later by the rectum) and the bowels are constipated, the feces passed appearing in narrow cylindroids or small balls. Not infrequently a sensitive point will be felt below the ensiform bone, and another near the navel, just to the left. Patients suffering from uncomplicated neurasthenia gastrica do not emaciate, unless insomnia is a concomitant. Under those circumstances, they may lose considerable weight.

If this woman has suffered for years, and no tumor can be observed, while gastric analysis fails to reveal lactic acid, an absence of free hydrochloric acid and of the Boas-Oppler bacilli, we may almost certainly exclude cancer. The Abderhalden test might advantageously be made.

As a rule in nervous dyspepsia, there occur sudden changes in the patient's condition. She (if a woman) may be entirely well for a few days, and then all the symptoms may present in a marked form. Gastric secretion may be normal or variable in the same patient at different times.

Very remarkable results have been secured in such cases by the administration of juglandoid, papain, and strychnine arsenate, or, also, the latter drug with capsicum and gentian, half an hour before food; betain-pepsin with meals (if HCl is deficient) just after eating, and bilein and pancreatin an hour later.

Iron and manganese in defibrinated bovine blood, ferrosomatose or similar preparation may be given three times daily, to improve nutrition. The bowels should be flushed with warm decinormal salt solution; and the faradic current applied to the spine and gastric area two or three times a week. Where the condition is of reflex origin and the causative condition can be ascertained, this, of course, must be treated.

In this case, particular attention must be paid to the kidneys. Examine the spine carefully for anesthetic or hyperesthetic areas or for subluxations.

The urine and stomach contents should be examined minutely every few days.

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 QUERY 6008.—"Herpes Zoster." P. V., Canada, has under treatment a patient recovering from a very bad attack of "shingles;"

the eruption has subsided, but left the patient in a poor physical condition.

The patient, a man about fifty-two years of age, is a university professor of pronounced nervous disposition. His mother and two sisters died of tuberculosis of the lungs, and he at the present time seems to be a fit subject for the same malady, although his lungs appear to be in fairly good condition.

It was the doctor's intention to place this patient on the triple arsenates with nuclein, but his attention was drawn to this textbook statement: "The medical use of arsenicum has been suggested as a cause for herpes zoster."

Now our correspondent desires to know (1) what we think of such a statement; (2) if we think the use of arsenic would tend to increase rather than decrease the trouble; (3) if arsenic is contraindicated, what could be given the patient to "build him up." He adds, by way of compliments:

"I have been a member of the CLINICAL MEDICINE "family" for several years, and the more I read, the more I appreciate the journal; in fact, on account of the limited time I have for general reading, CLINICAL MEDICINE is the only medical journal I read from cover to cover."

Under certain conditions, the administration of arsenic may produce an eruption which can be differentiated from herpes zoster only with difficulty; for that matter, arsenical eruptions may simulate practically any acute dermatosis. Herpes zoster occurs at all ages and in both sexes. It is not at all uncommon after forty, and is rarely seen in early infantile life. It is observed more frequently in the spring and late autumn, and during damp and changeable weather.

Most pathologists contend that the disease is a descending acute neuritis and provoked by various causes, having its beginning most frequently in the ganglionic system—in the cervical or spinal ganglia—finally reaching the terminal branches, with the production of the cutaneous phenomena.

It is more than probable that many of the zoster-like eruptions, particularly the recurrent forms, are not examples of true zoster, but eruptions due to a systemic disease of infectious origin. It must not be forgotten that the disease is occasionally observed in the epidemic form. Hartzell and others point out that anything which may bring about an irritable or inflamed state of the gasserian ganglia, spinal ganglia, nerve-tract or peripheral branches may be responsible for the eruption.

Under the circumstances, it is not difficult to understand that arsenic might prove the causative irritant. Atmospheric changes, exposure to cold and wet, sudden checking of the perspiration, also traumatism, peripheral nerve irritation, intestinal parasites, malaria, and pulmonary disease have all been mentioned as causative.

The treatment outlined herewith proves promptly efficacious in the majority of cases.

Calomel (or blue mass and soda) and podophyllin in full dosage at night, followed by a copious laxative saline draught next morning. The arsenates (preferably with nuclein) three times daily after meals. Zinc phosphide (gr. 1-64) as an alternate. The sulphocarbols should be given to secure and maintain intestinal cleanliness. The mercurial may be repeated on the third, sixth, and ninth evenings. The diet should be light; galact-enzyme in good dosage will prove useful.

The lesions may be dusted with a mildly astringent powder. Campho-menthol will relieve the stinging pain or pruritus. To prevent pitting, paint the vesicles (unbroken or carefully drained) with benzoinated colloidion. If there is a tendency to suppuration, calcium sulphide will, of course, be indicated; push to saturation. As a subsequent tonic, we recommend the arsenates of iron, quinine and strychnine, three times daily. If the patient has received arsenic in any form, its further administration would, of course, be undesirable. Nuclein, brucine, and the phosphates might, under such circumstances, be given with advantage.

QUERY 6009.—"Pronounced Icterus of Obscure Origin." T. N. C., Pennsylvania, has as a patient, a man of fifty-two years, and a writer by profession, who up to four months ago enjoyed the very best of health. He gives a clean history. At the time named, jaundice began to show, and in about one week he became a dark-copper color. No other signs of being ill, subjective or objective, developed, but since then he has lost about 40 pounds, under a restricted diet advised by other physicians. The perspiration leaves no stains on the clothing, and the stools have always been natural in color. He takes no alcoholic drink, but has been smoking cigarettes very much. The present treatment consists in daily flushing of the colon; besides (just as an experiment) a free diet and quinine sulphate, 2 grains, every two hours.

In view of our limited knowledge of basal pathological conditions, as here described, we cannot venture a definite opinion as to the

cause of the pronounced icterus in this 52-year-old patient; and we suggest that specimens of blood, urine, and feces be sent to our pathologist, for examination. One thing, doctor, can you definitely exclude Addison's disease? However, the absence of "colic" and of acholic stools, together with the marked loss of weight leads us to think possibly you may have to do with distoma hepaticum. Palpation may reveal a small tumor (usually situated about three-finger-breadths to the right of the median line), and percussion show a diminished hepatic area. It is decidedly peculiar that there has been no pain or gastric disturbance.

You do not say anything about the man's appetite. The possibility of partial absorption, by swelling, of the bile-duct mucosa and the formation of mucous plugs must be considered. As a rule, catarrhal jaundice may be diagnosed by the fact that there is no pronounced pain or enlargement of the liver, nor discoloration of the feces. The condition may persist for weeks or months.

It is quite evident that you have not to do with an acute infectious jaundice (Weil's disease), and, as there is no history of colic, it is reasonable to exclude cholelithiasis. Hepatitis, syphilis of the liver, duodenal ulcer may all cause jaundice. But, after all is said, you must not overlook the very strong probability of carcinoma of the liver, which, considering the patient's age and loss of weight, is perhaps the most likely diagnosis of all. An Abderhalden test would be advisable.

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QUERY 6010.—"Economy in the Use of Alkaloids, and Their Dosage." J. A. S., Tennessee, asks for explicit directions for dosing aconitine and digitalin granules in pneumonia, both of children and adults; adding, "Were the alkaloids not so high in price I should prescribe them exclusively." In answer, let us repeat what we have pointed out in these pages time and again, namely:

The small dose at frequent intervals to effect, remedial or physiologic, that is the one safe rule to follow in administering potent active principles—indeed, any and all remedial agents of powerful physiologic properties.

When giving to children such potent remedies as aconitine, gelsemoid, digitalin, and veratrine, you may elect to adopt Shaller's rule, which runs: "one granule for each year of the child's age, and one 'for the glass' in 24 teaspoonfuls of water," or else follow our own procedure, namely: for each year of the child's age dissolve one granule in 8 teaspoon-

fuls (or 12, according to the conditions present), giving one teaspoonful every fifteen, thirty or sixty minutes, to effect."

A child one year of age or older, with a temperature of 102° F. and having pulmonary congestion, certainly may receive 1-8 of a granule of aconitine half-hourly or hourly for six or eight doses; that is, one granule in three to six hours as a maximum apportionment. Under certain circumstances, though, we should not hesitate to give 1-4 of a granule half-hourly for four doses, and thereafter a smaller quantity at intervals to effect—meaning, reduction of temperature or evidences of drug-sufficiency, as shown by the physiologic signs.

Of course, very young children can not say whether their throat feels dry, their tongue and lips tingle, and so on; consequently we must not dispense for them more than a known-to-be-safe quantity of aconitine (granules or solution). For a child of a year or under, this would mean two granules. Very sick infants should be seen again within twelve to twenty-four hours, so that it is quite unnecessary to leave with the family an excessive amount of the drug.

For children, aconitine should always be dispensed in solution; and, in this connection, we would call attention to the superior efficacy of the defervescent compound (aconitine, digitalin, veratrine) in the treatment of pneumonia. The same rule as to dosage applies, of course. A strong child of 5 years or older, during the early stages of pneumonia may receive the larger dose—1-4 or even 1-3 of a granule half-hourly or hourly for a time; after that smaller dosage, to maintain the effect.

Now, doctor, as to your statement that the alkaloids are so expensive, you cannot afford to use them exclusively. Now, really, doctor, the alkaloidal and the other active principles are the cheapest and the most dependable drugs obtainable, if of standard guaranteed purity; for, not only do they produce definite results, but they are readily taken, even by young children. This is a consideration of great importance, and in these days the man who simplifies matters and *does things gets the practice*. For this reason, the alkaloidal products are success-makers.

To illustrate. You are called, we will say, to treat a child sick with pneumonia. Now see the beauty of the system: You will give your patient 1-10 of a grain of calomel and 1-64 of a grain of podophyllin every half hour for four or six doses, and follow the last dose with a laxative-saline draught; at the same

time you will give the defervescent compound or aconitine and bryonin, in solution. The total cost of these medicines is less than 5 cents; and even if you add iodized calcium or some other indicated drug you hardly can spend more than 20 cents in controlling the disease-process. Subsequent medication may cost from 25 to 50 cents additional, but we are quite positive that in our own practice scores of pneumonia-patients have been cured, and the medicines have not cost us fifty cents, all told. Other physicians all over the country report similar experiences.

Once more: You have, let us say, a patient suffering from intestinal fermentation. You dispense half a dozen calomel, podophyllin and bilein compound and order two to be taken every other night: the cost of these 6 tablets to you (even if you buy only by the hundred) is the trifle of 1 1-2 cents. You also give, say, 25 tablets of the combined sulpho-carbolates, which cost you 32 cents for 100— or 8 cents for the 25 tablets. Thus, your medicine, which will make a pronounced impression and thoroughly satisfy your patient, will have cost you 10 cents at the most. And if you buy in larger lots your dispensing-expense will even be materially less.

We assure you, doctor, that you certainly have arrived at an erroneous conclusion. The active principles not only are the most satisfactory and scientific, but are the least expensive remedial agents you possibly can dispense in your practice; not to mention here the prestige they compel in your community, besides other obvious advantages.

QUERY 6011.—“Eczema Manuum.” P. W. F., New York, writes as follows: “I have a very stubborn case of dry eczema of hands and fingers. The condition is circumscribed, no area being over one-half inch in diameter; there is no weeping or itching; unless the skin is kept well oiled, fissures appear, which are very sore. All my treatment, both internal and local, is without effect. The condition has existed more or less for four years. The patient, a man thirty-eight years of age, apparently is perfectly well in every other particular.”

It is a little difficult to offer specific advice, for the simple reason that eczema is a protean disease and that remedies proving effective in one case may fail entirely in another.

Sometimes the patient's occupation is the exciting factor, as in the case of people having their hands in water a great deal, who are particularly liable to eczema manuum.

In the dry types, which are especially ob-

served on the palmar aspects, salicylic acid is one of the best remedies; it should be applied in an ointment, 20 to 30 grains to the ounce, with petrolatum and lanolin as base. Calomel or white-precipitate ointments at times are useful; also carbenzol and ichthyol may prove promptly curative. The various applications should be tried tentatively, over a small spot at first. If there is epidermic thickening and pain over the affected area, try salicylated collodion, of 5-percent strength, applying two or three coats and repeating twice daily for two or three days. Then intermit the treatments and watch progress. If necessary, repeat the procedure from time to time. In the milder form of fissured eczema the following constitutes an excellent application: tincture of benzoin, 1-2 dram; glycerin, 2 1-2 drams; water, 5 drams; after standing a while, filter. Rub this lotion thoroughly into affected skin.

However, in order to secure results, the correct local and internal treatment must be instituted conjointly. It is essential, of course, to eliminate freely and maintain “therapeutic cleanliness” of the intestine; moreover, the excretion of solids must be kept up to standard and a normal output of urea maintained. Nearly all eczematous individuals suffer from suboxidation.

Irisoid, alnuoid, and boldine may be pushed to effect, the triple arsenates, arsenic sulphide or liquor arsenii compositus (Barclay) usually are indicated, being employed according to circumstances.

QUERY 6012.—“Albinismus or Vitiligo?” C. W. C., Kansas, wants to know whether there is any effective treatment?

No, there is no known cure for this condition. True albinism, we need not tell you, is a congenital absence, either partial or complete, of the pigment normally present in the hair, skin, and eyes. Partial albinism, sometimes termed “leukoderma,” as a rule involves either the skin alone or both the skin and hair, and is identical in its symptomatology with vitiligo, excepting that it is congenital and lacks the increased pigmentation of the skin bordering the lesions as observed in the latter affection.

Thus, the question arises whether your case is one of albinismus (“albinism”) or perhaps of vitiligo (*same* as leukoderma, congenital or acquired).

We hardly should think that a true albino, twenty years old, as is the farmer's daughter in question, would seek treatment. As stated, that condition is permanent, although

in exceptional instances the red coloration of the iris may at times disappear. Stelwagon, with other authorities, dismisses the subject of treatment with one short paragraph: "As may be inferred, albinism can not be lessened or influenced by treatment. It is, in fact, without a remedy."

In this connection, we would call your attention to Query 5846, in which the treatment of vitiligo is outlined. If you desire further information and will give us a clear idea of conditions presenting themselves, we may, possibly, be able to advise you more intelligently.

QUERY 6013.—"Chronic Diffuse Nephritis." C. R. B., Missouri, desires therapeutic suggestions. His patient is a young man presenting all the symptoms of arteriosclerosis and a blood pressure of 200 mm.

The doctor writes: In a former letter you stated that my patient might have acidemia. I have carefully tested his urine and find the specific gravity a little above 1020. The total amount passed in twenty-four hours was 2200 Cc. The radial artery is hard; blood pressure, 180. Three of his grandparents lived to be old—to eighty and ninety years. One grandmother living now is ninety-five years old. His father and mother are living and healthy. This man had measles when four years old and has never been very stout since; his usual weight being between 140 to 150 pounds, with a height of 5 feet 7 inches. He has passed too much urine for two or three years. His parents tell me that after the measles his feet were swollen for a year. Heart seems to be all right. He has had headaches for several years. Otherwise he looks to be in very good health. I have had him on veratrine, 1-64 grain three times a day; liquor arsenii compound, 5 drops three times a day; and Carlsbad salt each morning. He gives no specific history; does not drink or use tobacco."

We are inclined to believe that your patient suffers from diffuse nephritis. As the disease progresses, the heart hypertrophies, arterial tension increases, and edema, which may have been quite pronounced, disappears. The patient voids a large quantity of light-colored urine of low specific gravity, containing a small amount of urea and possibly hyaline casts.

There is a tendency at the present time to discard the terms "chronic parenchymatous" and "chronic interstitial," as applied to nephritides; "chronic nephritis with uremia"

being substituted for "chronic parenchymatous nephritis."

Autopsy findings show that in all cases of chronic nephritis there is more or less evidence of parenchymatous as well as of interstitial changes; the preponderance of the pathologic change being either in the parenchyma or the stroma. A comparison of the postmortem findings with the symptoms observed usually proves that if dropsy accompanies the condition it is of the parenchymatous, while of the interstitial type if accompanied by uremia.

You are aware, of course, doctor, that the interstitial form frequently (perhaps usually) exists for years without attracting very much attention. During the first stage—that of compensation—the symptoms of arterial hypertension usually observed are, principally, swollen temporal arteries, slight attacks of epistaxis, ringing noises in the ears, and vertigo.

Uremic autotoxemia is evidenced by headache, not readily relieved by drugs, but disappearing with rest and proper dieting. The patient frequently has cramps in the ankles at night; also, sudden sensations of cold—goose-flesh or formication. During the second, or cardiac, stage, there is marked increase of arterial tension; while not infrequently complications set in which may prove fatal. In the third, or uremic, stage, any or all of the symptoms observed in the first and second stages present, together with nausea, vomiting, and diarrhea; or, in the more marked cases, dry tongue, convulsions, stupor or delirium, and coma.

Under the circumstances, we should place this patient upon an absolute milk diet—2 1-2 to 3 quarts a day—instructing him to swallow it slowly, commingling each mouthful well with saliva. Give very small doses of veratrine, say, 1-500 grain in solution, three times a day. Continue the morning laxative saline. Also, order him to take three or four tablets of a virile culture of the Bulgarian lactic bacillus, crushed in the mouth and swallowed with the milk, every three or four hours.

Epsom-salt sponge-baths nearly always are beneficial. The patient should rest absolutely several hours each day. As conditions improve and the arterial tension is reduced, you may add to the diet a little clam-bouillon, fresh fish, breast of chicken, asparagus, celery (stewed), and well-cooked cereals.

This promises to be an interesting case, and we trust you will keep careful clinical notes and report results.

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